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ecology and environment, inc.

SITE-SPECIFIC HEALTH AND SAFETY PLAN

Project: Westbank Asbestos

Project No.: ~~S06-9001-033~~ ZT4061 KJ6100 ged 2/7/96

ged 2/7/96 ~~S06-9601-033~~ gfd 2/7/96 / 003501SFXX

TDD/PAN No.: T06-9010-SAC and T06-9511-010 / EPA 0375SB

Project Location: Westwego/Harvey, Jefferson Parish, LA

Proposed Date of Field Activities: 12/4/95 (SITE RECON)

Project Director: Carol Geraghty

Project Manager: Troy Naquin

Prepared by: Madalyn Ball Date Prepared: 12/1/95

Approved by: Madalyn E Ball Date Approved: 12/1/95

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SITE-SPECIFIC HEALTH AND SAFETY PLAN ACCEPTANCE

Project: Westbank asbestos S06-9601-003/00350ISFXX aps 2/7/96

Project No.: 214061/KJ6100 aps 2/7/96 TDD/PAN No.: TO6-9511-070/BIA033SSB

Project Location: Westwego/Harvey Jefferson Parish, LA

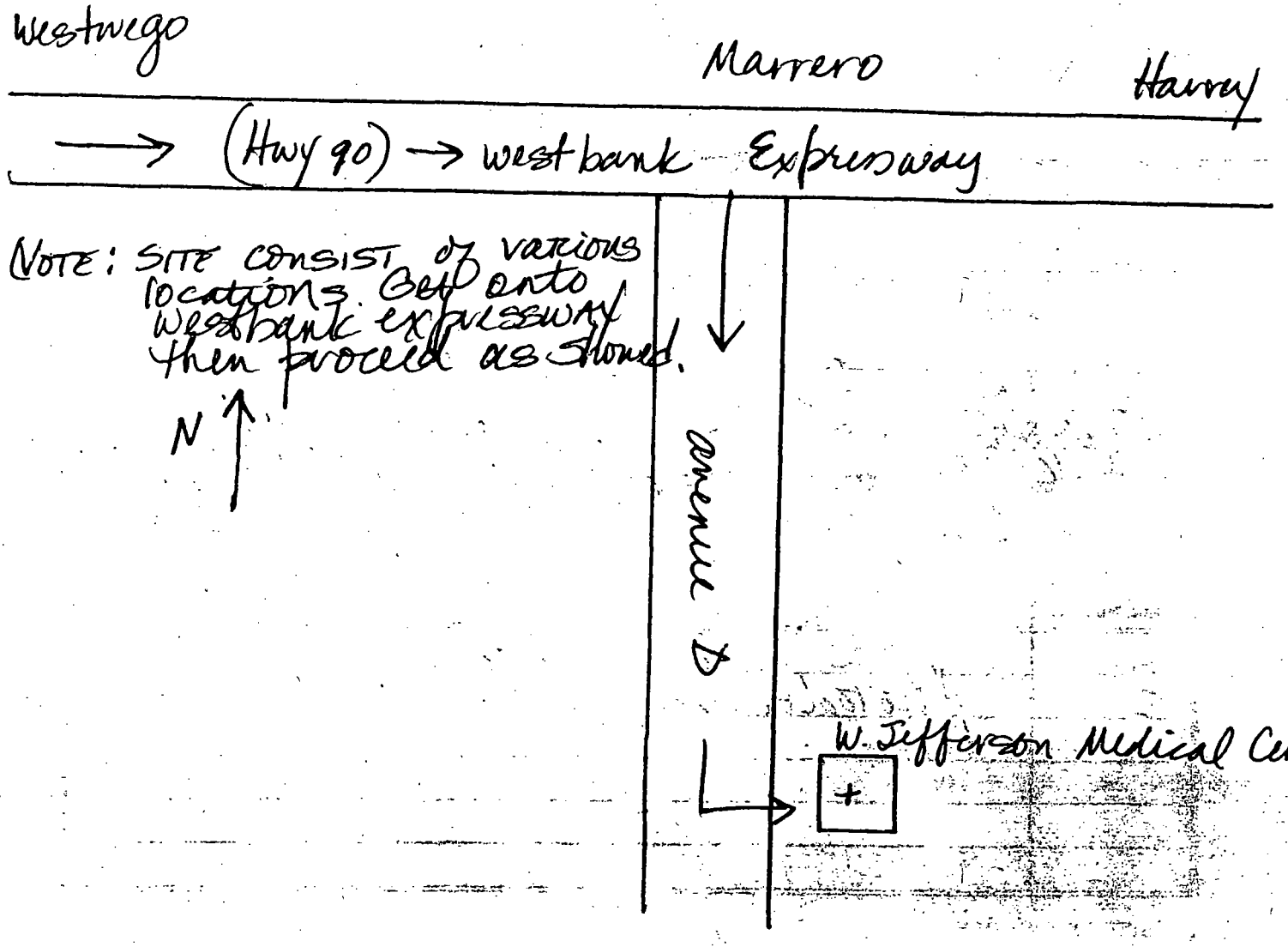
Project Manager: Troy Naquin Project Director: Carol Geraghty

The undersigned acknowledge that they have read and understood and agree to abide by the health and safety plan.

Name (Printed)	Name (Signature)	Date
Troy M. Naquin	Troy M. Naquin	2/6/96
Gregory R Day	Gregory R Day	2/7/96
[illegible]	[illegible]	3/28/96
John Mueller	John Mueller	3/29/96
Carol A Geraghty	Carol A Geraghty	7/11/96

Route to Hospital

WEST Jefferson Medical
(504) 347-5511
Marrero, Louisiana



1. INTRODUCTION

1.1 POLICY

It is E & E's policy to ensure the health and safety of its employees, the public, and the environment during the performance of work it conducts. This site-specific health and safety plan (SHASP) establishes the procedures and requirements to ensure the health and safety of E & E employees for the above-named project. E & E's overall safety and health program is described in *Corporate Health and Safety Program for Toxic and Hazardous Substances* (CHSP). After reading this plan, applicable E & E employees shall read and sign E & E's Site-Specific Health and Safety Plan Acceptance form.

This SHASP has been developed for the sole use of E & E employees and is not intended for use by firms not participating in E & E's training and health and safety programs. Subcontractors are responsible for developing and providing their own safety plans.

This SHASP has been prepared to meet the following applicable regulatory requirements and guidance:

Applicable Regulation/Guidance
29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER)
Other:

1.2 SCOPE OF WORK

Description of Work: Site Recon which entails logbook and photodocumentation to assess threat to the environment and human health (primarily to check for any conditions that may have changed)

Equipment/Supplies: Attachment 1 contains a checklist of equipment and supplies that will be needed for this work. No sampling conducted @ this time

The following is a description of each numbered task:

Task Number	Task Description
1	logbook documentation
2	photodocumentation

1.3 SITE DESCRIPTION

Site Map: A site map or sketch is attached at the end of this plan.

Site History/Description (see project work plan for detailed description): The site was designed to include the Johns-Manville plant, landfills, associated roadways and residences. It operated from 1925-1965. Operations included the production of various types of asbestos containing material with the principal product being asbestos containing asphalt roofing material and an asbestos containing material by-product. The aggregate was offered to local residents for driveway construction.

Is the site currently in operation? ☐ Yes ☒ No

Locations of Contaminants/Wastes: Johns-Manville Plant, landfill, the associated roadways, and residences. Asbestos containing materials found as road bed material located in residential driveways.

Types and Characteristics of Contaminants/Wastes:

☐ Liquid	☒ Solid	☐ Sludge	☐ Gas/Vapor
☐ Flammable/Ignitable	☐ Volatile	☐ Corrosive	☐ Acutely Toxic
☐ Explosive	☐ Reactive	☒ Carcinogenic	☐ Radioactive
☐ Medical/Pathogenic	Other: _____		

2. ORGANIZATION AND RESPONSIBILITIES

E & E team personnel shall have on-site responsibilities as described in E & E's standard operating procedure (SOP) for Site Inspection. The project team, including qualified alternates, is identified below.

Name	Site Role/Responsibility
Troy Naquin	Project/Task Manager Troy A. Naquin
Greg Day	Site Safety Officer Gregory R Day

3. TRAINING

Prior to work, E & E team personnel shall have received training as indicated below. As applicable, personnel shall have read the project work plan, sampling and analysis plan, and/or quality assurance project plan prior to project work.

Training	Required
40-Hour OSHA HAZWOPER Initial Training and Annual Refresher (29 CFR 1910.120)	X
Annual First Aid/CPR	X
Hazard Communication (29 CFR 1910.1200)	X
40-Hour Radiation Protection Procedures and Investigative Methods	

Training	Required
8-Hour General Radiation Health and Safety	
Radiation Refresher	
DOT and Biannual Refresher	X
Other	

4. MEDICAL SURVEILLANCE

4.1 MEDICAL SURVEILLANCE PROGRAM

E & E field personnel shall actively participate in E & E's medical surveillance program as described in the CHSP and shall have received, within the past year, an appropriate physical examination and health rating.

E & E's health and safety record (HSR) form will be maintained on site by each E & E employee for the duration of his or her work. E & E employees should inform the site safety officer (SSO) of any allergies, medical conditions, or similar situations that are relevant to the safe conduct of the work to which this SHASP applies.

4.2 RADIATION EXPOSURE

4.2.1 External Dosimetry

Thermoluminescent Dosimeter (TLD) Badges: TLD badges are required to be worn by all E & E field personnel on all E & E sites.

Pocket Dosimeters: N/A

Other: Radiation monitored with Monitor 4 during previous site recon (2-8-9/90). No levels above background were detected.

4.2.2 Internal Dosimetry

☐ Whole body count ☐ Bioassay ☐ Other

Requirements: N/A

4.2.3 Radiation Dose

Dose Limits: E & E's radiation dose limits are stated in the CHSP. Implementation of these dose limits may be designated on a site-specific basis.

Site-Specific Dose Limits: N/A

ALARA Policy: Radiation doses to E & E personnel shall be maintained as low as reasonably achievable (ALARA), taking into account the work objective, state of technology available, economics of improvements in dose reduction with respect to overall health and safety, and other societal and socioeconomic considerations.

Sample Handling: Protective gloves of a type designated in Section 7 will be worn when containerized samples are handled for labeling, packaging, transportation, and other purposes.

Vermiculite Handling: Respiratory protection (i.e., high-efficiency particulate air filtration) is recommended when vermiculite is used to package samples into shipping containers (some vermiculite contains low concentrations of asbestos).

Other Safe Work Practices: beware of possible dogs/cats around the community

6. HAZARD EVALUATION AND CONTROL

6.1 PHYSICAL HAZARD EVALUATION AND CONTROL

Potential physical hazards and their applicable control measures are described in the following table for each task.

Hazard	Task Number	Hazard Control Measures
Biological (flora, fauna, etc.)	1, 2	• Potential hazard: Poison oak, ivy sumac, ticks • Establish site-specific procedures for working around identified hazards. • Other: dogs/cats
Cold Stress	1, 2	• Provide warm break area and adequate breaks. • Provide warm noncaffeinated beverages. • Promote cold stress awareness. • See *Cold Stress Prevention and Treatment* (attached at the end of this plan if cold stress is a potential hazard).
Compressed Gas Cylinders		• Use caution when moving or storing cylinders. • A cylinder is a projectile hazard if it is damaged or its neck is broken. • Store cylinders upright and secure them by chains or other means. • Other:
Confined Space		• Ensure compliance with 29 CFR 1910.146. • See SOP for Confined Space Entry. Additional documentation is required. • Other:
Drilling		• See SOP for Health and Safety on Drilling Rig Operations. Additional documentation may be required. • Other: • Other:
Drums and Containers		• Ensure compliance with 29 CFR 1910.120(j). • Consider unlabeled drums or containers to contain hazardous substances and handle accordingly until the contents are identified. • Inspect drums or containers and assure integrity prior to handling. • Move drums or containers only as necessary; use caution and warn nearby personnel of potential hazards. • Open, sample, and/or move drums or containers in accordance with established procedures; use approved drum/container-handling equipment. • Other:

5. SITE CONTROL

5.1 SITE LAYOUT AND WORK ZONES

Site Work Zones: Refer to the map or site sketch, attached at the end of this plan, for designated work zones.

Site Access Requirements and Special Considerations: SITE IS comprised of a residential community

Illumination Requirements: all work will be performed during daylight hours.

Sanitary Facilities (e.g., toilet, shower, potable water): Nearest gasoline service station; no on-site facilities available.

On-Site Communications: verbal; vehicle horn if needed.

Other Site-Control Requirements: Beware of traffic and curious on-lookers (citizens of the community) and residential dog/cats

5.2 SAFE WORK PRACTICES

Daily Safety Meeting: A daily safety meeting will be conducted for all E & E personnel and documented on the Daily Safety Meeting Record form or in the field logbook. The information and data obtained from applicable site characterization and analysis will be addressed in the safety meetings and also used to update this SHASP, as necessary.

Work Limitations: Work shall be limited to a maximum of 12 hours per day. If 12 consecutive days are worked, at least one day off shall be provided before work is resumed. Work will be conducted in daylight hours unless prior approval is obtained and the illumination requirements in 29 CFR 1910.120(m) are satisfied.

Weather Limitations: Work shall not be conducted during electrical storms. Work conducted in other inclement weather (e.g., rain, snow) will be approved by project management and the regional safety coordinator or designee.

Other Work Limitations:

Buddy System: Field work will be conducted in pairs of team members according to the buddy system.

Line of Sight: Each field team member shall remain in the line of sight and within verbal communication of at least one other team member.

Eating, Drinking, and Smoking: Eating, drinking, smoking, and the use of tobacco products shall be prohibited in the exclusion and contamination reduction areas, at a minimum, and shall only be permitted in designated areas.

Contamination Avoidance: Field personnel shall avoid unnecessary contamination of personnel, equipment, and materials to the extent practicable.

Hazard	Task Number	Hazard Control Measures
		• Ensure that field personnel do not work in close proximity to operating equipment. • Ensure that lifting capacities, load limits, etc., are not exceeded. • Other: _____
Heights (Scaffolding, Ladders, etc.)		• Ensure compliance with applicable subparts of 29 CFR 1910. • Identify special PPE needs (e.g., lanyards, safety nets, etc.) • Other: _____
Noise		• Establish noise level standards for on-site equipment/operations. • Inform personnel of hearing protection requirements (Section 7). • Define site-specific requirements for noise monitoring (Section 8). • Other: _____
Overhead Obstructions		• Wear hard hat. • Other: _____
Power Tools		• Ensure compliance with 29 CFR 1910 Subpart P. • Other: _____
Sunburn	1, 2	• Apply sunscreen. • Wear hats/caps and long sleeves. • Other: _____
Utility Lines		• Identify/locate existing utilities prior to work. • Ensure that overhead, underground, and nearby utility lines are at least 25 feet away from project activities. • Contact utilities to confirm locations, as necessary. • Other: _____
Weather Extremes	1, 2	• Potential hazards: rain • Establish site-specific contingencies for severe weather situations. • Provide for frequent weather broadcasts. • Weatherize safety gear, as necessary (e.g., ensure eye wash units cannot freeze, etc.). • Identify special PPE (Section 7) needs. • Discontinue work during severe weather. • Other: _____
Other: slip/trip/fall uneven terrain	1, 2	• slip/trip/fall - walk carefully • _____
Other: Debris, clutter		• slip/trip/fall - walk carefully • cut/puncture

6.2 CHEMICAL HAZARD EVALUATION AND CONTROL

6.2.1 Chemical Hazard Evaluation

Potential chemical hazards are described by task number in Table 6-1. Hazard Evaluation Sheets for major known contaminants are attached at the end of this plan.

Hazard	Task Number	Hazard Control Measures
Electrical		• Ensure compliance with 29 CFR 1910 Subparts J and S. • Locate and mark energized lines. • De-energize lines as necessary. • Ground all electrical circuits. • Guard or isolate temporary wiring to prevent accidental contact. • Evaluate potential areas of high moisture or standing water and define special electrical needs. • Other: _____
Excavation and Trenching		• Ensure that excavations comply with and personnel are informed of the requirements of 29 CFR 1926 Subpart P. • Ensure that any required sloping or shoring systems are approved as per 29 CFR 1926 Subpart P. • Identify special personal protective equipment (PPE) (see Section 7) and *monitoring (see Section 8) needs if personnel are required to enter* approved excavated areas or trenches. • Maintain line of sight between equipment operators and personnel in excavations/trenches. Such personnel are prohibited from working in close proximity to operating machinery. • Suspend or shut down operations at signs of cave in, excessive water, defective shoring, changing weather, or unacceptable monitoring results. • Other: _____ • Other: _____
Fire and Explosion		• Inform personnel of the location(s) of potential fire/explosion hazards. • Establish site-specific procedures for working around flammables. • Ensure that appropriate fire suppression equipment and systems are available and in good working order. • Define requirements for intrinsically safe equipment. • Identify special monitoring needs (see Section 8). • Remove ignition sources from flammable atmospheres. • Coordinate with local fire-fighting groups regarding potential fire/explosion situations. • Establish contingency plans and review daily with team members. • Other: _____
Heat Stress		• Provide cool break area and adequate breaks. • Provide cool noncaffeinated beverages. • Promote heat stress awareness. • Use active cooling devices (e.g., cooling vests) where specified. • See *Heat Stress Prevention and Treatment* (attached at the end of this plan if heat stress is a potential hazard).
Heavy Equipment Operation		• Define equipment routes, traffic patterns, and site-specific safety measures. • Ensure that operators are properly trained and equipment has been properly inspected and maintained. Verify back-up alarms. • Ensure that ground spotters are assigned and informed of proper hand signals and communication protocols. • Identify special PPE (Section 7) and monitoring (Section 8) needs.

Table 6-1

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA) PEL	REL	TLV	Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID Relative Response	Ioniz. Poten. (eV)
* 1,2	chrysotile	.2f/cc	.1f/cc	2f/cc	N	inhalation, ingestion skin and/or eye	breathing difficulty / finger clubbing	odorless	—	—
* 1,2	Crocidolite	.2f/cc	.1f/cc	.2f/cc	N	inhalation, ingestion skin and/or eye contact	restricted pulmonary functions and irritant eyes	odorless	—	—

Note: Use an asterisk (*) to indicate known or suspected carcinogens.

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6.2.2 Chemical Hazard Control

An appropriate combination of engineering/administrative controls, work practices, and PPE shall be used to reduce and maintain employee exposures to a level at or below published exposure levels (see Section 6.2.1).

Applicable Engineering/Administrative Control Measures: N/A

PPE: See Section 7.

6.3 RADIOLOGICAL HAZARD EVALUATION AND CONTROL

6.3.1 Radiological Hazard Evaluation

Potential radiological hazards are described below by task number. Hazard Evaluation Sheets for major known contaminants are attached at the end of this plan.

Task Number	Radionuclide	DAC (μCi/ml)	Route(s) of Exposure	Major Radiation(s)	Energy(s) (MeV)	Half-Life
	N/A					

6.3.2 Radiological Hazard Control

Engineering/administrative controls and work practices shall be instituted to reduce and maintain employee exposures to a level at or below the permissible exposure/dose limits (see sections 4.2.3 and 6.3.1). Whenever engineering/administrative controls and work practices are not feasible or effective, any reasonable combination of engineering/administrative controls, work practices, and PPE shall be used to reduce and maintain employee exposures to a level at or below permissible exposure/dose limits.

Applicable Engineering/Administrative Control Measures: N/A

PPE: See Section 7.

7. LEVEL OF PROTECTION AND PERSONAL PROTECTIVE EQUIPMENT

7.1 LEVEL OF PROTECTION

The following levels of protection (LOPs) have been selected for each work task based on an evaluation of the potential or known hazards, the routes of potential hazard, and the performance specifications of the PPE. On-site monitoring results and other information obtained from on-site activities will be used to modify these LOPs and the PPE, as necessary, to ensure sufficient personnel protection. The authorized LOP and PPE shall only be changed with the approval of the regional safety coordinator or designee. Level A is not included below because Level A activities, which are performed infrequently, will require special planning and addenda to this SHASP.

Task Number	B	C	D	Modifications Allowed
1, 2			X	

Note: Use "X" for initial levels of protection. Use "(X)" to indicate levels of protection that may be used as site conditions warrant.

7.2 PERSONAL PROTECTIVE EQUIPMENT

The PPE selected for each task is indicated below. E & E's PPE program complies with 29 CFR 1910.120 and 29 CFR 1910 Subpart I and is described in detail in the CHSP. Refer to 29 CFR 1910 for the minimum PPE required for each LOP.

PPE	Task Number/LOP					
	1/D	2/D				
Full-face APR						
PAPR						
Cartridges:						
H						
GMC-H						
GMA-H						
Other:						
Positive-pressure, full-face SCBA						
Spare air tanks (Grade D air)						
Positive-pressure, full-face, supplied-air system						
Cascade system (Grade D air)						
Manifold system						
5-Minute escape mask						
Safety glasses	X	X				
Monogoggles						
Coveralls/clothing	X	X				

PPE	Task Number/LOP					
	1/D	2/D				
Protective clothing:						
Tyvek						
Saranex						
Other:						
Splash apron						
Inner gloves:						
Cotton						
Nitrile						
Latex						
Other:						
Outer gloves:						
Viton						
Rubber						
Neoprene						
Nitrile						
Other:						
Work gloves						
Safety boots (as per ANSI Z41)	X	X				
Neoprene safety boots (as per ANSI Z41)	X	X	- available if needed			
Boot covers (type: latex)	X	X	- if needed			
Hearing protection (type:)						
Hard hat						
Face shield						
Other:						
Other:						

8. HEALTH AND SAFETY MONITORING

Health and safety monitoring will be conducted to ensure proper selection of engineering/administrative controls, work practices, and/or PPE so that employees are not exposed to hazardous substances at levels that exceed permissible exposure/dose limits or published exposure levels. Health and safety monitoring will be conducted using the instruments, frequency, and action levels described in Table 8-1. Health and safety monitoring instruments shall have been appropriately calibrated and/or performance-checked prior to use.

* Air monitoring for radiation conducted during previous site investigation (7-8-9/90) no readings were detected above background levels. Material is confined in asbestos containing roofing material

- will check for any changed conditions

Table 8-1

HEALTH AND SAFETY MONITORING

Instrument	Task Number	Contaminant(s)	Monitoring Location	Monitoring Frequency	Action Levels[a]	
☐ PID (e.g., HNu IS-101) ☐ FID (e.g., OVA 128-GC)					**Unknown Vapors** Background to 1 ppm: Level D 1 to 5 ppm above background: Level C 5 to 500 ppm above background: Level B >500 ppm above background: Level A	**Contaminant-Specific**
Oxygen Meter/Explosimeter					**Oxygen** <19.5% or >25.0%: Evacuate area; eliminate ignition sources; reassess conditions. 19.5 to 25.0%: Continue work in accordance with action levels for other instruments.	**Explosivity** ≤10% LEL: Continue work in accordance with action levels for other instruments; monitor continuously for combustible atmospheres. >10% LEL: Evacuate area; eliminate ignition sources; reassess conditions.
Radiation Alert Monitor (Rad-mini or RAM-4)					<0.1 mR/hr: Continue work in accordance with action levels for other instruments. ≥0.1 mR/hr: Evacuate area; reassess work plan and contact radiation safety specialist.	
Mini-Ram Particulate Monitor					**General/Unknown** Evaluate health and safety measures when dust levels exceed 2.5 milligrams per cubic meter.	**Contaminant-Specific**
HCN/H_2S (Monitox)					≥4 ppm: Leave area and consult with SSO.	
Draeger Colorimetric Tubes					**Tube** **Action Level** **Action**	

Table 8-1

HEALTH AND SAFETY MONITORING

Instrument	Task Number	Contaminant(s)	Monitoring Location	Monitoring Frequency	Action Levels[a]
Air Monitor/Sampler Type:________ Sampling medium:					Action Level / Action
Personal Sampling Pump Type:________ Sampling medium:					Action Level / Action
Micro R Meter					<2 mR/hr: Continue work in accordance with action levels for other instruments. 2 to 5 mR/hr: In conjunction with a radiation safety specialist, continue work and perform stay-time calculations to ensure compliance with dose limits and ALARA policy. >5 mR/hr: Evacuate area to reassess work plan and evaluate options to maintain personnel exposures ALARA and within dose limits.
Ion Chamber					See micro R meter action levels above.
Radiation Survey Ratemeter/Scaler with External Detector(s)					Detector / Action Level / Action
Noise Dosimeter (Sound Level Meter)					≤85 decibels as measured using the A-weighed network (dBa): Use hearing protection if exposure will be sustained throughout work shift. >85 dBA: Use hearing protection. >120 dBA: Leave area and consult with safety personnel.
Other:					
Other:					

[a] Unless stated otherwise, airborne contaminant concentrations are measured as a time-weighted average in the worker's breathing zone. Acceptable concentrations for known airborne contaminants will be determined based on OSHA/NIOSH/ACGIH and/or NRC exposure limits.

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SSO: The SSO will recommend health/safety and protective measures appropriate to the emergency.

Other:

10.2 LOCAL AND SITE RESOURCES (including phone numbers)

Ambulance: West Jefferson Ambulance Service (504) 340-8661

Hospital: West Jefferson Medical Center 504 347 5511

Directions to Hospital (map attached at the end of this plan): Get onto the Westbank Expressway (Hwy 90), move east or west in the direction of Marrero, Louisiana. Exit avenue D. Hospital will be on left side

Poison Control: 1-800-256-9822 (Louisiana 24 hr)

Police Department: New Orleans Police/Orleans Parish Police - 911 ~~(821-2222)~~

Fire Department: New Orleans Fire Dept - 911 (821-2222) and/or 565-7800

Client Contact: John Martin (214) 665-~~2210~~ 6748

Site Contact: N/A

On-Site Telephone Number: N/A

Cellular Telephone Number: TBD

Radios Available: not needed, will use buddy system

Other:

10.3 E & E EMERGENCY CONTACTS

E & E Emergency Response Center (24 Hours): 716/684-8940

Corporate Health and Safety Director, Dr. Paul Jonmaire: 716/684-8060 (office)
716/655-1260 (home)

~~Dr. Raymond Harbison:~~ MB 9/22/95 ~~501/221-0465 (University of Arkansas)~~ MB 9/22/95
~~501/370-8263 (24 hour service)~~ MB 9/22/95
~~904/462-3277, 3281 (University of Florida)~~ MB 9/22/95

Regional Office Contact Madalyn E. Ball (504) 291-4698 (office)
(504) 296-0476 (home)

Other: ATATL, Carol Geraghty (504) 291-4698 (office)
(504) 292-1845 (home)

~~10.4 MED-TOX HOTLINE~~ MB 10/3/95

~~The Med-Tox hotline is activated and accessed as follows:~~ MB 9/22/95

~~1. Call 501/370-8263.~~ MB 9/22/95

9. DECONTAMINATION PROCEDURES

All equipment, materials, and personnel will be evaluated for contamination upon leaving the exclusion area. Equipment and materials will be decontaminated and/or disposed and personnel will be decontaminated, as necessary. Decontamination will be performed in the contamination reduction area or any designated area such that the exposure of uncontaminated employees, equipment, and materials will be minimized. Specific procedures are described below.

Equipment/Material Decontamination Procedures (specified by work plan): N/A - no equipment will be taken for site recon. No Sampling will be conducted at this time.

Ventilation: All decontamination procedures will be conducted in a well-ventilated area. - all work outside

Personnel Decontamination Procedures: if applicable, disposable PPE will be worn. Will be collected and sealed in plastic bags.

PPE Requirements for Personnel Performing Decontamination: N/A - Each person perform own decon, if applicable

Personnel Decontamination in General: Following appropriate decontamination procedures, all field personnel will wash their hands and face with soap and potable water. Personnel should shower at the end of each work shift.

Disposition of Disposable PPE: Disposable PPE must be rendered unusable and disposed as indicated in the work plan. or as designated by the OSC.

Disposition of Decontamination Wastes (e.g., dry wastes, decontamination fluids, etc.): Per OSC instruction

10. EMERGENCY RESPONSE

This section contains additional information pertaining to on-site emergency response and does not duplicate pertinent emergency response information contained in earlier sections of this plan (e.g., site layout, monitoring equipment, etc.). Emergency response procedures will be rehearsed regularly, as applicable, during project activities.

10.1 EMERGENCY RESPONSIBILITIES

All Personnel: All personnel shall be alert to the possibility of an on-site emergency; report potential or actual emergency situations to the team leader and SSO; and notify appropriate emergency resources, as necessary.

Team Leader: The team leader will determine the emergency actions to be performed by E & E personnel and will direct these actions. The team leader also will ensure that applicable incidents are reported to appropriate E & E and client project personnel and government agencies.

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~~2. State, "This is an emergency."~~ MP 9/22/95

~~3. Provide:~~ MP 9/22/95

- ~~Your name, region, and site~~ MP 9/22/95
- ~~Your telephone number~~ MP 9/22/95
- ~~Your location~~ MP 9/22/95
- ~~Name of injured or exposed person~~ MP 9/22/95
- ~~Nature of the emergency~~ MP 9/22/95
- ~~Action(s) taken~~ MP 9/22/95

~~4. When a toxicologist (Dr. Raymond Harbison or associate) returns your call (should be within 15 minutes), repeat the above information.~~ MP 9/22/95

5. ~~If a toxicologist does not return your call within 15 minutes~~, call the following in order until contact is made: MP 9/22/95

a.	E & E Emergency Response Center:	716/684-8940
b.	Corporate Health and Safety Director, Dr. Paul Jonmaire:	716/684-8060 (office) 716/655-1260 (home)
c.	Corporate Safety Officer, ~~Steven Sherman~~ MP 9/22/95: Tom Siener	716/684-8060 (office) ~~716/688-0084 (home)~~ MP 9/22/95 (716)662-4740

10.5 OTHER EMERGENCY RESPONSE PROCEDURES

On-Site Evacuation Signal/Alarm (must be audible and perceptible above ambient noise and light levels): verbal or vehicle horn

On-Site Assembly Area: TO BE DETERMINED

Emergency Egress Route to Get Off Site: move toward West bank Expressway (Hwy 90)

Off-Site Assembly Area: TO BE DETERMINED

Preferred Means of Reporting Emergencies: On-site - verbal; off-site - telephone

Site Security and Control: In an emergency situation, personnel will attempt to secure the affected area and control site access.

Emergency Decontamination Procedures: Remove disposable PPE and place in sealed plastic bag

PPE: Personnel will don appropriate PPE when responding to an emergency situation. The SSO and Section 7 of this plan will provide guidance regarding appropriate PPE.

Emergency Equipment: Appropriate emergency equipment is listed in Attachment 1. Adequate supplies of this equipment shall be maintained in the support area or other approved work location.

Incident Reporting Procedures: For injuries and exposures notify BR H/S coordinator in office, call Buffalo H/S (Mary Wdowoka) during normal business hours. E&E 24 hr # for nights/weekends/ and holidays. Vehicle accident info attached at the end of this SHASP.

ATTACHMENT 1
EQUIPMENT/SUPPLIES CHECKLIST

INSTRUMENTATION	No.	EMERGENCY EQUIPMENT	No.
OVA		First aid kit	✓
Thermal desorber		Stretcher	
O_2/explosimeter w/cal. kit		Portable eye wash	
Photovac tip		Blood pressure monitor	
HNu (probe: _____eV)		Fire blanket	
Magnetometer		Fire extinguisher	
Pipe locator		Thermometer (medical)	
Weather station		Spill kit	
Draeger tube kit (tubes: _____)			
Brunton compass			
Real-time cyanide monitor			
Real-time H_2S monitor			
Heat stress monitor			
Noise equipment		DECONTAMINATION EQUIPMENT	
Personal sampling pumps and supplies		Wash tubs	
MiniRam dust monitor		Buckets	
Mercury monitor		Scrub brushes	
Spare batteries (type: _____)		Pressurized sprayer	
		Spray bottle	
		Detergent (type: _____)	
RADIATION EQUIPMENT/SUPPLIES		Solvent (type: _____)	
Documentation forms		Plastic sheeting	
Portable ratemeter		Tarps and poles	
Scaler/ratemeter		Trash bags	✓
1" NaI gamma probe		Trash cans	
2" NaI gamma probe		Masking tape	
ZnS alpha probe		Duct tape	
GM pancake probe		Paper towels	
Tungsten-shielded GM probe		Face mask	
Micro R meter		Face mask sanitizer	
Ion chamber Plastic BADGE	X	Step ladders	
Alert monitor		Distilled water	
Pocket dosimeter		Deionized water	
Dosimeter charger			
Radiation warning tape			
Radiation decon supplies			
Spare batteries (type: _____)			

SITE SAFETY PLAN ATTACHMENTS FOR WESTBANK ASBESTOS

ATTACHMENT A: HAZARD EVALUATION OF CHEMICALS

ATTACHMENT B: SITE SKETCHES FROM THE 1990 TAT SITE ASSESSMENT

ATTACHMENT C: VEHICLE ACCIDENT FORMS

ATTACHMENT D: COLD STRESS PREVENTION AND TREATMENT

ATTACHMENT E: FIRST AID INFORMATION

ATTACHMENT F: DAILY SAFETY MEETING RECORDS

ATTACHMENT G: SITE SAFETY PLAN ADDENDUMS

- Asbestos Bulk Sampling Safety Considerations

ATTACHMENT A

HAZARD EVALUATION OF CHEMICALS

HAZARD EVALUATION OF CHEMICALS

Chemical Name Asbestos Date

DOT Name/U.N. No. Job No. TS1313; 7LA0375SAA

CAS Number 1332-21-4

References Consulted (circle):

(NIOSH/OSHA Pocket Guide) Verschueren Merck Index Hazardline (Chris (Vol. II))

Toxic and Hazardous Safety Manual (ACGIH) Other:

Chemical Properties: (Synonyms: Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, Anthophyllite)

Chemical Formula Silicon base - varies Molecular Weight N/A

Physical State solid - fibrous Solubility (H_2O) N/A Boiling Point N/A

Flash Point N/A Vapor Pressure/Density N/A Freezing Point N/A

Specific Gravity 2.55 - varies Odor Characteristic N/A Flammable Limits N/A

Incompatabilities

Biological Properties:

TLV-TWA .2 - 2.0 f/cc PEL .2 f/cc Odor/Odor Threshold N/A

IDLH N/A Human IHL TCL 2.2 f/cc Aquatic Rat/Mouse IHL TCL: ICCm/IKS

Route of Exposure Inhalation & Ingestion

Carcinogen Known human Teratogen N/A Mutagen N/A

Handling Recommendations: (Personal protective measures)

HEPA filter with airpurifying respirators, full body disposable clothing (tyvek) incl hood, gloves, boots.

Monitoring Recommendations:

Personal pumps with a volume between 2 - 4 l/min, high flow pumps with volume between 10 - 15 l/min

Disposal/Waste Treatment:

Approved landfill - spills - wet down and vacuum

Health Hazards and First Aid:

ING: None IHL: None Eye/Skin: N/A

Symptoms: Acute: None

Chronic: asbestosis, lung cancer & possibly GI tract cancer, mesothelioma & carcinogenic properties greatly potentiated by cigarette smoke

375127

Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Asbestos Date

DOT Classification Job Number

CAS Number 1332-21-4

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
(NIOSH/OSHA Pocket Guide) Merck Index Hazardline (Chris(vol.III))
(ACGIH TLV Booklet) Toxic & Hazardous Safety Manual SAX Aldrich
RTECS other: GA Tech Manual:Supervision of asbestos abatement

CHEMICAL PROPERTIES:(Synonyms:Chrysotile, Amosite,Crocidolite,Tremolite)
Chemical Formula Varies MW N/A Ionization Potential N/A
Physical State Solid Boiling Point N/A Freezing Point N/A
Flash Point N/A Flammable Limits N/A Vapor Pressure N/A
Specific Gravity/Density varies Odor/Odor Threshold N/A
Solubility-water: Non-soluble Solubility-other: N/A
Incompatabilities & Reactivity: None

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 0.2-2.0Fibers/CC PEL (OSHA)0.2Fibers/CC
STEL N/A Ceiling Limits N/A IDLH N/A
Toxicity Data: (Indicate duration of study)
Human; IHL TDLo:2.8fibers/cc Dermal N/A Oral
Rat/Mouse; IHL TDLo:100mg/kg:ETA Dermal N/A Oral
Aquatic: Other:
Carcinogen Known human Mutagen N/A Reproductive Toxin N/A
ute(s) of exposure - (circle all that apply): (Inhalation) (Ingestion)
rmal Contact Eye(ocular) Dermal Absorption Other

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators:HEPA filters with airpurifying up tooil fibers/cc;air supplied
Protective Clothing:Full body disposable covering, inc.hood,gloves & boots
Special Equipment:If not in full face piece respirator wear eye protection

DISPOSAL,FIRE and SPILLS:(Use numbered codes;see attached sheets for explanation.)
Disposal approved landfill Fire N/A Leaks&Spills vacume
Decomposition Products: None

FIRST AID:
ING: None
IHL: None
Eye/Skin: N/A

SYMPTOMS:
acute(immediate) exposure effects: None

chronic(long term) exposure effects: Asbestosis, lung cancer & possible GI tract cancer, mesothelioma and carcinogenic properties greatly potentiated by cigarette smoke.

productive effects: N/A

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EMERGENCY AND FIRST AID INSTRUCTIONS

Inhalation: Move person to fresh air. Clean any fibers away from nose and mouth. Seek medical attention, if necessary.

Skin: Wash material from skin without inhaling fibers. Remove any soiled clothing.

Eyes: Wash with water for 15 minutes. Seek medical attention, if necessary.

Ingestion: Seek medical attention, if necessary.

FIRE AND EXPLOSION INFORMATION

General: Non-flammable.

REACTIVITY

General: Stable.

PROTECTIVE MEASURES

Note: Several New York State agencies regulate aspects of the asbestos removal industry. The Department of Environmental Conservation addresses issues of transportation and disposal of materials containing asbestos. The Departments of Health and Labor are developing regulations for licensing of contractors, certification of workers and establishment of criteria for training and work practices in the asbestos removal industry. For more information, please contact the appropriate state agency.

Storage and Handling: Use closed, heavy-gauge, impervious plastic bags in sealed rigid containers protected from physical damage. Do not smoke, eat, or drink in the work area.

Engineering Controls: To reduce the formation of dust, asbestos-containing materials should be wet down, before being disturbed, with water that contains a surfactant or wetting agent (e.g. detergent). All hand-operated and power-operated tools which may release asbestos fibers in excess of OSHA standards must be supplied with local exhaust systems. Isolation, enclosure and dust collection methods should be used. Showers, sinks and eye wash stations should be readily available.

Protective Clothing (Should not be substituted for proper handling and engineering controls): Fiber concentrations in excess of 0.2 fiber/cubic centimeter require the use of special clothing (coveralls, head coverings, gloves and foot coverings), change rooms with two separate lockers (one for street clothes and one for work clothes) and a medical surveillance program. Employers are urged to contact their regional OSHA offices for more detailed information on the requirements of the revised OSHA standard for occupational exposure to asbestos.

Protective Equipment: For levels up to 2 fibers/cubic centimeter use an air-purifying respirator with high-efficiency filters. For levels up to 10 fibers/cubic centimeter use the above with a full facepiece. For levels up to 20 fibers/cubic centimeter use a powered air-purifying respirator with high-efficiency filters or a supplied-air respirator operated in a continuous-flow mode. For levels up to 200 fibers/cubic centimeter use a supplied-air respirator with a full facepiece, operated in pressure demand mode. For levels above 200 fibers/cubic centimeter use a supplied-air respirator with a full facepiece, operated in pressure demand mode and equipped with an auxiliary positive pressure self-contained breathing apparatus.

PROCEDURES FOR SPILLS AND LEAKS

Wearing protective equipment, use a wet-mop or high-efficiency vacuum to clean area. Avoid blowing, dry-brushing and dry-sopping, all of which may raise dust levels. For information on proper storage and disposal of wastes containing asbestos, contact your regional office of the New York State Department of Environmental Conservation.

For more information:
Contact the Industrial Hygienist or Safety Officer at your worksite or the New York State Department of Health, Bureau of Toxic Substance Assessment, 2 University Place, Albany, New York 12203.

Substance	[CAS #]	ADOPTED VALUES TWA ppm[c]	TWA mg/m³[b]	STEL ppm[c]	STEL mg/m³[b]
Soluble salts (1979)		—	2	—	—
Alkyls (NOC†) (1979)		—	2	—	—
Aluminum oxide [1344-28-1], as Al (1986)		—	10[m]	—	—
■4-Aminodiphenyl	[92-67-1] — Skin (1972)	—	A1	—	—
2-Aminoethanol, *see* Ethanolamine					
2-Aminopyridine	[504-29-0] (1986)	0.5	2.0	—	—
3-Amino 1,2,4-triazole, *see* Amitrole					
■Amitrole [61-82-5] (1986)		—	0.2	—	—
Ammonia [7664-41-7] (1976)		25	17	35	24
Ammonium chloride fume	[12125-02-9] (1976)	—	10	—	20
Ammonium perfluorooctanoate	[3825-26-1] (1988)	—	0.1	—	—
Ammonium sulfamate	[7773-06-0] (1986)	—	10	—	—
Amosite, *see* Asbestos					
n-Amyl acetate [628-63-7] (1987)		100	532	—	—
sec-Amyl acetate	[626-38-0] (1987)	125	665	—	—
◄■Aniline [62-53-3] & homologues — Skin (1988)		2	7.6	—	—
■Anisidine [29191-52-4] (o-, p-isomers) — Skin (1977)		0.1	0.50	—	—
Antimony [7440-36-0] & compounds, as Sb (1980)		—	0.5	—	—
■Antimony trioxide [1309-64-4]					
Handling and use, as Sb (1978)		—	0.5	—	—
Production (1980)		—	A2	—	—
ANTU [86-88-4] (1986)		—	0.3	—	—
Argon [7440-37-1] (1981)		—[d]	—	—	—
◄■Arsenic [7440-38-2] & soluble compounds, as As (1980)		—	0.2	—	—
Arsenic trioxide production	[1327-53-3] (1980)	—	A2	—	—
■Arsine [7784-42-1] (1977)		0.05	0.16	—	—
◄■Asbestos[f]					
• Amosite [12172-73-5] (1980)			0.5 fiber/cc, A1		
• Chrysotile [12001-29-5] (1980)			2 fibers/cc, A1		
• Crocidolite [12001-28-4] (1980)			0.2 fiber/cc, A1		
• Other forms (1980)			2 fibers/cc, A1		

Substance	[CAS #]	ADOPTED VALUES TWA ppm[c]	TWA mg/m³[b]	STEL ppm[c]	STEL mg/m³[b]
Asphalt (petroleum) fumes	[8052-42-4] (1987)	—	5	—	—
Atrazine [1912-24-9] (1983)		—	5	—	—
◄Azinphos-methyl	[86-50-0] — Skin (1986)	—	0.2	—	—
Barium [7440-39-3], soluble compounds, as Ba (1977)		—	0.5	—	—
Barium sulfate [7727-43-7]	(1986)	—	10[n]	—	—
Benomyl [17804-35-2] (1988)		0.84	10	—	—
◄■■Benzene [71-43-2] (1987)		10,A2	32,A2	—	—
■Benzidine [92-87-5] — Skin	(1982)	—	A1	—	—
p-Benzoquinone, *see* Quinone					
Benzoyl peroxide [94-36-0]	(1977)	—	5	—	—
■Benzo(a)pyrene [50-32-8] (1976)		—	A2	—	—
■Benzyl chloride [100-44-7] (1977)		1	5.2	—	—
◄■Beryllium and compounds, as Be [7440-41-7] (1979)		—	0.002,A2	—	—
Biphenyl [92-52-4] (1987)		0.2	1.3	—	—
Bismuth telluride	[1304-82-1] (1986)	—	10	—	—
Se-doped (1986)		—	5	—	—
Borates, tetra, sodium salts	[1303-96-4]				
Anhydrous (1977)		—	1	—	—
Decahydrate (1977)		—	5	—	—
Pentahydrate (1977)		—	1	—	—
Boron oxide [1303-86-2] (1986)		—	10	—	—

(d) Simple asphyxiant; see definition in the "Introduction to the Chemical Substances."
(e) The value is for total dust containing no asbestos and < 1% crystalline silica.
(f) Fibers longer than 5 μm and with an aspect ratio equal to or greater than 3:1 as determined by the membrane filter method at 400-450X magnification (4 mm objective) phase contrast illumination.

Capital letters A & B refer to Appendices; C denotes ceiling limit.

◄ Identifies substances for which there are also BEIs (see BEI section). Substances identified in the BEI documentations for methemoglobin inducers (for which methemoglobin is the principle toxicity) and organophosphorus cholinesterase inhibitors are part of this notation.

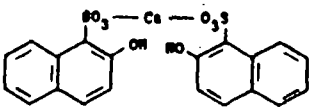
■ Substance identified by other sources as a suspected or confirmed human carcinogen. See the compilation in the Appendix to the Documentation of TLVs, pp. A-5(86)–A-9(86).

• Substance for which OSHA and/or NIOSH has a Permissible Exposure Limit (PEL) or a Recommended Exposure Limit (REL) lower than the TLV.

† NOC = not otherwise classified.

Animal rendering processes (Occupational Hazard Assessment March 1981)	OSHA PEL's or NIOSH REL's for specific hazards are applicable		Mechanical injury; burns; heat stress; infections from biologic agents; chemical hazards	Guidelines for engineering controls and work practices to reduce injury and illness presented
Antimony (September 1978)	0.5 mg Sb/m^3, 8-hr TWA	0.5 mg Sb/m^3 TWA	Irritation; cardiovascular and lung effects	Chest x ray, pulmonary function testing, and electrocardiogram required
Arsenic, inorganic (September 1974; revised June 1975; reaffirmed July 1982 as part of NIOSH testimony at OSHA hearing)	10 μg As/m^3, 8-hr TWA 29 CFR 1910.1018	Ca 2 μg As/m^3 ceiling (15 min)	Lung and lymphatic cancer; dermatitis	Chest x ray required
Arsine (CIB August 1979)	0.2 mg/m^3 (0.05 ppm), 8-hr TWA	Ca 2 μg As/m^3 (0.002 mg As/m^3) ceiling (15 min)	Sudden extensive hemolysis	Workers to be warned of working with arsenic compounds in presence of freshly formed hydrogen
Asbestos (January 1972; revised December 1976; revised March 1984 as part of NIOSH testimony at Congressional hearing;	200,000 fibers/m^3, over 5 μm in length, 8-hr TWA; Action level of 100,000 fibers/m^3, 8-hr TWA 29 CFR 1910.1001	Ca 100,000 fibers/m^3, over 5 μm in length, 8-hr TWA in a 400-liter air sample	Lung cancer; mesothelioma; asbestosis	Chest x ray and pulmonary function testing required

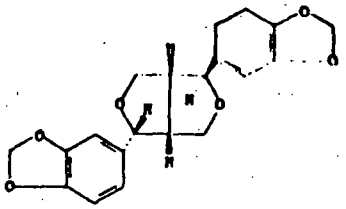
Merck Manual



Trihydrate, reddish-white, odorless powder. Dec at about 50°. One gram dissolves in 1.5 ml water, 3 ml alc.

USE: Has been used instead of gypsum to plaster wines.

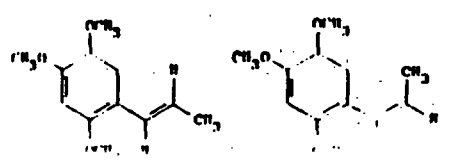
837. Asarinin. Episesamin. $C_{20}H_{18}O_6$; mol wt 354.34. C 67.79%, H 5.12%, O 27.09%. Naturally occurring *l*-form known as *xanthoxylin-S* in early literature. Isoln from *Xanthoxylum clava-herculis* L. (*X. carolinianum* Lam.), *Rutaceae*; *Asarum sieboldi* Miquel var. *seulense* Nakai, *A. blumei* Duch., *Aristolochiaceae*: Collon, *Am. J. Pharm.* 1890, 191; Eberhardt, *Ibid.* 231; Clorlin, *J. Am Chem. Soc.* 28, 1649 (1906); Dieterle *et al.*, *Arch. Pharm.* 269, 384 (1931); Huang-Minlon, *Ber.* 70, 951 (1937); Kaku *et al.*, *C.A.* 32, 9090[1] (1938). Structure: Dieterle, Schwenger, *Arch. Pharm.* 277, 33 (1939). Synthesis of *dl*-form: Beroza, Schechter, *J. Am. Chem. Soc.* 78, 1242 (1956); Freudenberg, Fischer, *Ber.* 89, 1230 (1956). Diastereoisomeric with sesamin, *(q.v.)*. Stereochemistry of the *d*-form: Freudenberg, Sidhu, *Ibid.* 94, 851 (1961).



l-Form, crystals from alc, mp 121°, $[\alpha]_D^{20}$ −118.6° (chloroform). Practically insol in water; slightly in cold, freely in boiling methanol, alcohol, chloroform, acetone, benzene. Antitubercular activity: Ramaswamy, *Naturwiss.* 44, 380 (1957).

dl-Form, mp 134-135°.

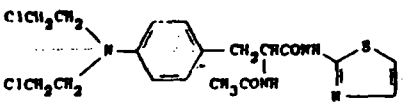
838. Asarones. *1,2,4-Trimethoxy-5-(1-propenyl)benzene;* 2,4,5-trimethoxy-1-propenylbenzene; asarin; asarum camphor; asarabacca camphor. $C_{12}H_{16}O_3$; mol wt 208.25. C 69.21%, H 7.74%, O 23.05%. From root of *Asarum europaeum* L., *Aristolochiaceae* by distillation with water. Also found in the ethereal oils of *A. europaeum* and *A. arifolium* L., *Aristolochiaceae* and in *Acorus calamus* L., *Araceae*. Occurs in nature as a mixture of two isomeric forms, *α-asarone* being the *(E)-* or *trans*-isomer, *β-asarone*, the *(Z)-* or *cis*-isomer. The unqualified term asarone is often used synonymously with *α*-asarone. Isoln: Gattermann, Eggers, *Ber.* 32, 289 (1899). Early syntheses: Seshadri, Thiruvengadam, *Proc. Indian Acad. Sci.* 32A, 110 (1950); Sharma, Dandiya, *Indian J. Appl. Chem.* 32, 236 (1969). Stereochemistry of isomers: Baxter *et al.*, *Can. J. Chem.* 40, 154 (1962). Insect chemosterilant activity of *β*-asarone: B. P. Saxena *et al.*, *Nature* 270, 512 (1977); *see also* G. Matolesy *et al.*, *Z. Naturforsch.* 35B, 1449 (1980). Stereospecific synthesis of *β*-asarone: M. T. S. Hsia *et al.*, 177th Am. Chem. Soc. Meet. (Honolulu, April 1979), *Abstracts of Papers*, PEST 98. Synthetic and HPLC study of *α*- and *β*-asarone: L. Gracza, *Arch. Pharm.* 314, 972 (1981).



ether, glacial acetic acid, carbon tetrachloride, chloroform, petr ether.

839. Asarum. Wild ginger; Canada snakeroot; Indian ginger. Dried rhizome and roots of *Asarum canadense* L., *Aristolochiaceae*. *Habit.* Canada to N. Carolina and Kansas. *Constit.* Acrid resin, arom. volatile oil, methyl eugenol.

840. Asazol. *α-(Acetylamino)-4-[bis(2-chloroethyl)amino]-N-2-thiazolylbenzenepropanamide; α-acetamido-p-[bis-(2-chloroethyl)amino]-N-2-thiazolylhydrocinnamamide;* (thiazolyl-2)amide of *N*-acetylsarcolysine; 2-[*p*-[bis(2-chloroethyl)amino]-*N*-acetylphenylalanyl]aminothiazole. $C_{16}H_{22}Cl_2N_4O_2S$; mol wt 429.38. C 50.35%, H 5.17%, Cl 16.51%, N 13.05%, O 7.45%, S 7.47%. Prepn: Berlin, Brunvitskaya, *J. Gen. Chem. USSR* 30, 347 (1960). Pharmacology: S. A. Degteva *et al.*, *Farmakol. Toksikol.* 31, 470 (1968), *C.A.* 69, 7545h (1968).



Crystals from abs alc, mp 165.5-166.5°.

THERAPEUTIC: Antineoplastic.

841. Asbestos. Amianthus. Fibrous mineral silicates. Divided into two groups: *serpentine* and *amphibole*. Most common form is *chrysotile* $[Mg_3(Si_2O_{10})(OH)_4]$, the fibrous form of serpentine (*see also* magnesium silicates). Subdivisions of amphibole are *anthophyllite* $[(Mg,Fe)_7(Si_8O_{22})(OH)_2]$ (low iron content); *amosite* $[Fe_7Mg_7(Si_8O_{22})(OH)_2]$; *actinolite* $[Ca_2(Mg,Fe)_5(Si_8O_{22}(OH)_2]$; *tremolite* $[Ca_2Mg_5(Si_8O_{22})(OH)_2]$; *crocidolite or blue asbestos* $[Na_2Fe^{+2}Fe_2^{+3}(Si_8O_{22})(OH)_2]$. Reviews of carcinogenicity and toxicology: T. J. Haley, *J. Pharm. Sci.* 64, 1435-1449 (1975); *IARC Monographs* 14, 1-106 (1977); *Arch. Pathol. Lab. Med.* 106, 541-596 (1982). Review of properties and industrial applications: W. C. Streib in Kirk-Othmer *Encyclopedia of Chemical Technology* vol. 3 (Wiley-Interscience, New York, 3rd ed., 1978) pp 267-283.

Fire resistant fibers. Chrysotile attacked by acid; amphiboles, acid resistant.

Caution: Occupational exposure to the dust can result in mesothelioma, squamous cell carcinoma and adenocarcinoma of the lung after a long latent period. This substance has been listed as a carcinogen by the EPA: *Second Annual Report on Carcinogens* (NTP 81-43, Dec. 1981) pp 37-41.

USE: Heat-resistant insulators, cements, furnace and hot pipe coverings, inert filler medium (laboratory & commercial), fireproof gloves, clothing, brake linings.

842. Ascaridole. *1-Methyl-4-(1-methylethyl)-2,3-dioxabicyclo[2.2.2]oct-5-ene;* 1,4-peroxido-*p*-menthene-2; Ascarisin. $C_{10}H_{16}O_2$; mol wt 168.23. C 71.39%, H 9.59%, O 19.02%. An organic peroxide which constitutes 60-80% of oil of chenopodium. Synthesis from α-terpinene by treatment with oxygen, chlorophyll, and light: Schenck, Ziegler, *Naturwiss.* 1944, 157. Purification: Beckett *et al.*, *J. Pharm. Pharmacol.* 7, 55 (1955).

Liquid; unstable; prone to explosic when heated or when

Soluble in concentrated hydrochloric acid and most organic liquids; decomposed by water. Fumes in moist air. B.p. 130.5°C; f.p. −18°C; sp. gr. 2.163 (14/4°C); noncombustible.
Derivation: (a) By action of chlorine on arsenic; (b) by distillation of arsenic trioxide with concentrated hydrochloric acid.
Grades: Technical.
Containers: Bottles; 20-, 55-gal drums.
Hazard: Highly toxic; strong irritant to eyes and skin.
Uses: Intermediate for organic arsenicals (pharmaceuticals, insecticides); ceramics.
Shipping regulations: (Rail, Air) Poison label.

arsenic trioxide (crude arsenic; white arsenic; arsenious acid; arsenious oxide; arsenous anhydride) As_2O_3.
Properties: White, odorless, tasteless powder; slightly soluble in water; soluble in acids and alkalies; soluble in glycerol; sp. gr. 3.865. Sublimes on heating.
Derivation: Smelting of copper and lead concentrates. Flue dust, to which pyrite or galena concentrates are added, yields As_2O_3 vapor. Condensation gives product of varying purity called crude arsenic (90–95% pure). A higher-purity oxide called white arsenic is obtained by resubliming the crude As_2O_3 (99+% pure).
Containers: Drums; barrels; carloads.
Hazard: Highly toxic by ingestion and inhalation. A known carcinogen. Tolerance (as As), 0.05 mg per cubic meter of air.
Uses: Pigments, ceramic enamels, aniline colors; decolorizing agent in glass; insecticide; rodenticide; herbicide; sheep and cattle dip; hide preservative; wood perservative; preparation of other arsenic compounds.
Shipping regulations: (Rail, Air) Poison label.

arsenic trisulfide (arsenious sulfide; arsenic sulfide, yellow; arsenous sulfide; arsenic tersulfide) As_2S_3.
Properties: Yellow crystals or powder, changes to a red form at 170°C; sp. gr. 3.43; m.p. 300°C; insoluble in water and hydrochloric acid; dissolves in alkaline sulfide solutions and in nitric acid.
Derivation: Occurs in nature as the mineral orpiment. May be precipitated from arsenious acid solution by the action of hydrogen sulfide.
Grades: Technical; pigment; single crystals.
Hazard: Highly toxic by inhalation and ingestion.
Uses: Pigment; reducing agent; pyrotechnics; glass used for infrared lenses; semiconductors; hair removal from hides.
Shipping regulations: (Rail, Air) Arsenical compounds, n.o.s. Poison label.

arsine (arsenic hydride) AsH_3.
Properties: Colorless gas; f.p. −113.5; b.p. −62°C; decomposes 230°C; soluble in water; slightly soluble in alcohol, alkalies.
Derivation: Reaction of aluminum arsenide with water or HCl; electrochemical reduction of arsenic compounds in acid solutions.
Grades: Technical; 99% pure or in mixture with other gases.
Containers: Steel cylinders.
Hazard: Highly toxic. Tolerance, 0.05 ppm in air.
Use: Organic synthesis; military poison gas; doping agent for solid state electronic components.
Shipping regulations: (Rail) Poison Gas and Flammable Gas labels. Not acceptable passenger (Air) Not acceptable.

arsphenamine. A specific for syphilis originally developed by Ehrlich, but no longer in use. It was a derivative of arsenic and benzene. See Ehrlich.

"Artic."[28] Trademark for refrigeration grade of methyl chloride (q.v.).

artificial cinnabar. See mercuric sulfide, red.

artificial snow. A copolymer of butyl and isobutyl methacrylate, often dispersed from an aerosol bomb or other atomizing device; used in decorative window displays, etc. Man-made snow is crystallized water vapor made by mechanical means.

"Arubren CP."[470] Trademark for a highly chlorinated aliphatic hydrocarbon compound used in rubber compounds to decrease flammability of vulcanizates.

arylalkyl. A compound containing both aliphatic and aromatic structures, e.g., alkyl benzenesulfonate. Also called aralkyl.

aryl. A compound whose molecules have the ring structure characteristic of benzene, naphthalene, phenanthrene, anthracene, etc., i.e., either the six-carbon ring of benzene or the condensed six-carbon rings of the other aromatic derivatives. For example, an aryl group may be phenyl, C_6H_5 or naphthyl ($C_{10}H_9$). Such groups are often represented in formulas by R. See also alkyl.

As Symbol for arsenic.

as.- Abbreviation for asymmetrical; same as uns- (q.v.).

ASA. Abbreviation for acrylic ester-modified styrene-acrylonitrile terpolymer. See also "Luran S."

asarone. See 2,4,5-trimethoxy-1-propenylbenzene.

asbestine. A soft, fibrous magnesium silicate used as a filler in paper, rubber, and plastics.

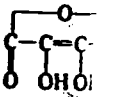
asbestos. A group of impure magnesium silicate minerals which occur in fibrous form. Colors: white, gray, green, brown. Sp. gr. 2.5. Noncombustible.
(1) Serpentine asbestos is the mineral chrysotile, a magnesium silicate. The fibers are strong and flexible so that spinning is possible with the longer fibers. A microcrystalline form trademarked "Avibest" has been developed.

(2) Amphibol
of magnesium,
fibers are gener
are more resista
serpentine asbes
(3) Amosite.
Occurrence: Yuko
zona, California.
Hazard: Toxic by
active carcinogen
cc, >5μ m in leng
Uses: Fireproof fat
compositions; ele
filler; chemical fi
and plastics; com
phragm cells.

ascaridole $C_{10}H_{16}O_2$
Properties: A liqui
b.p. 84°C (5 mm); s
index n 20/D 1.47
Derivation: By vacu
oil.
Hazard: Strong oxid
to 130°C or in cont
ingestion.
Uses: Initiator in po
Shipping regulation
n.o.s.; (Rail) Orga
able passenger. (Air

"Ascarite."[16] A tra
asbestos absorbent,
sorption of carbon c
carbon in iron an
method, and other a
Grades: Mesh 8–20,

ascorbic acid (L-asco



A dietary factor wh
of man to prevent
increases resistance t
sumably acts as an o
the cell. It is readily
not be exposed to air
before use.
Properties: White cryst
needles), m.p. 192°C
soluble in alcohol; in
benzene, petroleum et
when dry. Nontoxic.
Sources: Food source:
citrus fruits, tomatoes
tables.
Commercial source: S
fermentation of sorbito

Condensed Chemical Dictionary

(2) Amphibole asbestos includes various silicates of magnesium, iron, calcium, and sodium. The fibers are generally brittle and cannot be spun but are more resistant to chemicals and to heat than serpentine asbestos.

(3) Amosite.

Occurrence: Yukon, Quebec, Vermont, Mexico, Arizona, California, North Carolina, Africa, Italy.

Hazard: Toxic by inhalation of dust particles. An active carcinogen. Tolerance, (all forms) 5 fibers per cc, >5μ m in length.

Uses: Fireproof fabrics; brake lining; gaskets; roofing compositions; electrical and heat insulation; paint filler; chemical filters; reinforcing agent in rubber and plastics; component of paper dryer felts; diaphragm cells.

ascaridole $C_{10}H_{16}O_2$ 1,4-Peroxido-para-menthene-2.

Properties: A liquid, naturally occurring peroxide; b.p. 84° C (5 mm); sp. gr. 1.011 (13/15° C); refractive index n 20/D 1.4743.

Derivation: By vacuum distillation of chenopodium oil.

Hazard: Strong oxidizing agent; explodes on heating to 130° C or in contact with organic acids. Toxic by ingestion.

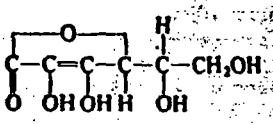
Uses: Initiator in polymerization; medicine.

Shipping regulations: (Peroxides, organic liquid, n.o.s.; (Rail) Organic Peroxide label. Not acceptable passenger. (Air) Not acceptable.

"Ascarite."[16] A trademark for sodium hydrate-asbestos absorbent, for rapid and quantitative absorption of carbon dioxide, in the determination of carbon in iron and steel by direct combustion method, and other analyses.

Grades: Mesh 8–20, 20–30.

ascorbic acid (L-ascorbic acid; vitamin C)



A dietary factor which must be present in the diet of man to prevent scurvy. It cures scurvy and increases resistance to infection. Ascorbic acid presumably acts as an oxidation-reduction catalyst in the cell. It is readily oxidized; citrus juices should not be exposed to air for more than a few minutes before use.

Properties: White crystals (usually plates, sometimes needles); m.p. 192° C; soluble in water; slightly soluble in alcohol; insoluble in ether, chloroform, benzene, petroleum ether, oils, and fats; stable to air when dry. Nontoxic.

Sources: Food source: acerola (West Indian cherry), citrus fruits, tomatoes, potatoes, green leafy vegetables.

Commercial source: Synthetic product made by fermentation of sorbitol.

Units: One international unit is equivalent to 0.05 mg of L-ascorbic acid.

Grades: U.S.P.; F.C.C.

Containers: Glass bottles; fiber cans; multiwall paper drums.

Uses: Nutrition; color fixing, flavoring, and preservative in meats and other foods; oxidant in bread doughs; abscission of citrus fruit in harvesting; reducing agent in analytical chemistry. The ferric, calcium and sodium salts are available for biochemical research.

ascorbic acid oxidase. An enzyme found in plant tissue which acts upon ascorbic acid in the presence of oxygen to produce dehydroascorbic acid.

Use: Biochemical research.

ascorbyl palmitate $C_{22}H_{38}O_7$. A white or yellowish-white powder having a citrus-like odor. M.p. 116–117° C; soluble in alcohol, animal and vegetable oils; slightly soluble in water. Low toxicity.

Derivation: Palmitic and L-ascorbic acids.

Grade: F.C.C.

Uses: Antioxidant for fats and oils; source of vitamin C; stabilizer; emulsifier.

-ase. A suffix characterizing the names of many enzymes, e.g., diastase, cellulase, cholinesterase, etc. However, the names of some enzymes end in -in (pepsin, rennin, papain).

"Aseptoform."[17] Trademark for esters of para-hydroxybenzoic acid, such as "Aseptoform" methyl, "Aseptoform" propyl, "Aseptoform" butyl.

ash. (1) In analytical chemistry, the residue remaining after complete combustion of a material; it consists of mineral matter (silica, alumina, iron oxide, etc.), the amount often being a specification requirement.

(2) The end product of large-scale coal combustion, as in power plants, now said to be the sixth most plentiful mineral in the U.S. It consists principally of fly ash, bottom ash, and boiler ash. Some of its values are recoverable, and there are a number of industrial uses of fly ash, e.g., in cement products and road fill. See also fly ash.

askarel. A generic descriptive name for synthetic electrical insulating (dielectric) material which when decomposed by the electric arc evolves only non-explosive gases or gaseous mixtures. Examples are chlorinated aromatic derivatives, particularly pentachlorodiphenyl and trichlorobenzene, but also including pentachlorodiphenyl oxide, pentachlorophenylbenzoate, hexachlorodiphenylmethane, pentachlorodiphenyl ketone, and pentachloroethylbenzene. Nonflammable.

Uses: Insulating medium in transformers; dielectric fluid.

See also dielectric; transformer oil.

A.S.M. Abbreviation for American Society for Metals (q.v.).

File 1; Entry 1; Accession No. 8300182

(CAS) CAS Registry Number: 1332-21-4 (ASBESTOS); 12001-29-5 (CHRYSOTILE); 17068-78-9 (ANTHOPHYLLITE); 13768-00-8 (ACTINOLITE); 12172-73-5 (AMOSITE); 12001-28-4 (CROCIDOLITE); 14567-73-8 (TREMOLITE)

(MAT) Material Name: $$$ [redacted] $$$

(SYN) Synonyms: ASBESTOS; ASBESTOS FIBER; AMIANTHUS; CHRYSOTILE; WHITE ASBESTOS; SERPENTINE; 7-45 ASBESTOS; AVIBEST C; CASSIAR AK; CALIDRIA RG 144; CALIDRIA RG 600; ANTHOPHYLLITE; AZBOLEN ASBESTOS; FERROANTHOPHYLLITE; AMOSITE; BROWN ASBESTOS; MYSORITE; CROCIDOLITE; BLUE ASBESTOS; TREMOLITE; SILICIC ACID, CALCIUM MAGNESIUM SALT (8:4) (IMEMDT 0013) [THE NATURALLY OCCURRING MINERALS CHRYSOTILE, AMOSITE, CROCIDOLITE, TREMOLITE, ANTHOPHYLLITE, AND ACTINOLITE ARE CLASSIFED AS ASBESTOS IF THE INDIVIUAL CRYSTALLITES OR CRYSTAL FRAGMENTS ARE GREATER THAN 5 MICROMETERS, THE MAXIMUM DIAMETER IS LESS THAN 5 MICROMETERS, AND THE LENGTH-TO-DIAMETER RATIO IS AT LEAST 3. (USPEDU 0002)]

(TRN) Tradename (Company): ASCARITE (CPCTS* 0001)

(FML) Chemical Formula: MG3SI2O5(OH)4 (CHRYSOTILE); (MG,FE)7SI8O22(OH)2 ANTHOPHYLLITE); (FE,MG)7SI8O22(OH)2 (AMOSITE); NA2(MG,FE)5SI8O22(OH)2 (CROCIDOLITE); CA2MG5SI8O22(OH)2 (TREMOLITE); CA2(MG,FE)5SI8O22(OH)2 (ACTINOLITE) (IMEMDT 0003)(AWQCD* 0008)

(SPC) Species in Mixture: DEPENDING ON ITS GEOLOGICAL ORIGIN, CHRYSOTILE MAY BE CONTAMINATED WITH VARYING AMOUNTS OF MINERALS SUCH AS CALCITE. PARTICLE SIZES OF THESE MINERALS TEND TO BE VERY SMALL. HYDROCARBONS MAY BE ADSORBED ON THE FIBERS, AND IMPURITIES FROM ABRASION OF PROCESSING MACHINERY SUCH AS HAMMER MILLS MAY BE PRESENT. (IMEMDT 0013)

(USS) Common Uses: IN COMBINATION WITH OTHER TEXTILES FOR FIREPROOF AND HEAT RESISTANT CLOTH. BY ITSELF OR COMBINED WITH OTHER MATERIALS FOR VALVE PACKINGS, GASKETS, BOILER LAGGING AND PIPE COVERING, PROTECTIVE CLOTHING, SHIELDING MATERIALS, AND AS AUTOMOTIVE BRAKE LININGS AND CLUTCH FACINGS. IN BUILDING INDUSTRY, TO MANUFACTURE ASBESTOS CEMENT PRODUCTS, HEAT INSULATING, AND FIREPROOFING MATERIALS. ABOUT 95% OF COMMERCIAL ASBESTOS IS CHRYSOTILE. (AIHG** 0001) (AWQCD* 0008) TREMOLITE, ACTINOLITE, AND ANTHOPHYLLITE HAVE LITTLE COMMERCIAL IMPORTANCE. (USPEDU 0002

(CON) Containers: CFR--ASBESTOS CEMENT, PLASTIC, ASPHALT, RESINS, OR MINERAL ORE; ASBESTOS-CONTAINING MANUFACTURED PRODUCTS; AND MATERIALS OR PRODUCTS WHOSE COMMERCIAL VALUE IS NOT DEPENDENT ON THEIR ASBESTOS CONTENT ARE NOT SUBJECT TO THE FOLLOWING REQUIREMENTS. COMMERCIAL ASBESTOS MAY BE TRANSPORTED IN RIGID, LEAKTIGHT PACKAGING SUCH AS METAL OR FIBER DRUMS, PORTABLE TANKS, HOPPER-TYPE RAIL CARS, OR HOPPER-TYPE MOTOR VEHICLES. BAGS OR OTHER NON-RIGID PACKAGING ARE SUITABLE WHEN TRANSPORTED IN CLOSED FREIGHT CONTAINERS, MOTOR VEHICLES, OR RAIL CARS THAT ARE LOADED BY AND FOR THE EXCLUSIVE USE OF THE CONSIGNOR AND UNLOADED BY THE CONSIGNEE. OTHERWISE, BAGS OR OTHER NON-RIGID PACKAGINGS MUST BE DUST AND SIFT-PROOF. IF TRANSPORTED OTHER THAN BY PRIVATE CARRIER BY HIGHWAY, SUCH NON-RIGID PACKAGES SHOULD BE PALLETIZED AND UNITIZED BY METHODS SUCH AS SHRINK-WRAPPING IN PLASTIC FILM OR WRAPPING IN FIBERBOARD SECURED BY STRAPPING. IF SECURED AND SUPPORTED ADEQUATELY TO PREVENT SHIFTING, PALLETS NEED NOT BE USED DURING TRANSPORT BY VESSEL FOR LOADS WITH SLINGS UNITIZED BY METHODS SUCH AS SHRINK WRAPPING. INSTEAD OF PALLETIZING OR UNITIZING, BAGS OR OTHER NON-RIGID PACKAGING THAT ARE DUST AND SIFT-PROOF MAY BE PACKED IN STRONG OUTSIDE FIBERBOARD OR WOODEN BOXES. (49CFR* 0001) IATA--ASBESTOS

FIBERS MUST BE PACKED IN RIGID, AIRTIGHT PACKAGING SUCH AS METAL OR FIBER DRUMS OR IN BAGS OR OTHER NON-RIGID PACKING THAT ARE DUST OR SIFT-PROOF IN STRONG OUTSIDE FIBERBOARD OR WOODEN BOXES. (RARAD5 0002) IMCO--EFFECTIVELY CLOSED, SIFT-PROOF RECEPTACLES HAVE NO RECEPTACLE NET AND PACKAGE GROSS WEIGHT LIMITS, BUT THE PACKAGE GROSS WEIGHT FOR MULTI-PLY, SIFT-PROOF BAGS IS 50 KG. (85EZAO 0001)

(HND) General Handling Procedure: INSOFAR AS PRACTICABLE, ASBESTOS SHALL BE HANDLED, MIXED, APPLIED, REMOVED, CUT, SCORED, OR OTHERWISE WORKED IN A WET STATE SUFFICIENT TO PREVENT THE EMISSION OF AIRBORNE FIBERS IN EXCESS OF THE PRESCRIBED EXPOSURE LIMITS. NO ASBESTOS CEMENT, MORTAR, COATING, GROUT, PLASTER, OR SIMILAR MATERIAL CONTAINING ASBESTOS SHALL BE REMOVED FROM BAGS, CARTONS, OR OTHER CONTAINERS IN WHICH THEY ARE SHIPPED, WITHOUT BEING EITHER WETTED, OR ENCLOSED, OR VENTILATED SO AS TO PREVENT EFFECTIVELY THE RELEASE OF AIRBORNE ASBESTOS FIBERS IN EXCESS OF THE PRESCRIBED LIMITS. (29CFR* 0001) MIX ASBESTOS CEMENT, MORTAR, COATINGS, GROUT, AND PLASTER IN CLOSED BAGS OR OTHER CONTAINERS. COLLECT AND DISPOSE OF ASBESTOS WASTE AND SCRAP IN SEALED BAGS OR OTHER CONTAINERS. USE VACUUM CLEANERS OR WET CLEANING METHODS TO CLEAN UP ASBESTOS DUST. DO NOT DRY SWEEP. (NIOAS* 0001)

(PRD) Production Sites: AMATEX CORPORATION, 1032 STANBRIDGE STREET, NORRISTOWN (MONTGOMERY COUNTY), PA 19401, MID NO. 191, EPA REGION 03; B.F. GOODRICH COMPANY, 500 SOUTH MAIN STREET, ATTN: RONALD J. SCHAEFER, AKRON (SUMMIT COUNTY), OH, 44318, MID NO. 3356, EPA REGION 05, DUNSNO 004467452; ALLIED CHEMICAL CORPORATION, 2829 GLENDALE AVENUE, TOLEDO (LUCUS COUNTY), OH, 43614, MID. NO. 3435, EPA REGION 05; LATEX FIBER PRODUCTS, MAIN STREET, BEAVER FALLS (LEWIS COUNTY), NY, 13305, MID NO. 4801, EPA REGION 02, DUNSNO 083278382; DEGUSSA CORPORATION, ROUTE 46 AT HOLLISTER ROAD, ATTN: DR. UWE E. BUFE, TETERBORO (BERGEN COUNTY), NJ, 07608, MID NO. 7204, EPA REGION 02; CELLULO COMPANY, 124 M STREET, FRESNO, CA 93721, MID NO. 7283, EPA REGION 09, DUNSNO 053255303; C. TENNANT & SONS & COMPANY OF NEW YORK, 100 PARK AVENUE, NEW YORK (NEW YORK COUNTY), NY, 10017, MID NO. 7563, EPA REGION 02; ICC INDUSTRIES, INC., 720 FIFTH AVENUE, NEW YORK, NY 10019, MID NO. 7630, EPA REGION 02; AMERICAN TAR COMPANY, 1700 NORTH NORTHLAKE WAY, ATTN: W. STALEY, PRESIDENT, SEATTLE (KING COUNTY), WA 98103, MID NO. 8045, EPA REGION 10. (PRDTN* 0002)

(LDL) Detection Limit (Lab; Techniques,Ref) (ppm): SEE REVIEW OF ANALYTICAL TECHNIQUES IN (AWQCD* 0008). THE MINERAL NATURE OF THE FIBERS IS GENERALLY DETERMINED WHEN NECESSARY BY ELECTRON BEAM INSTRUMENTATION (MORPHOLOGY, SELECTED AREA ELECTRON DIFFRACTION, AND ELECTRON MICROPROBE ANALYSIS). IN 1980, THE U.S. ENVIRONMENTAL PROTECTION AGENCY PROPOSED AN INTERIM METHOD FOR THE ANALYSIS OF ASBESTOS IN WATER: FILTER 50 TO 500 ML OF A 1-L SAMPLE THROUGH A 0.1 MICRON POLYCARBONATE FILTER. PLACE A PORTION OF THE FILTER ON AN ELECTRON MICROSCOPE GRID, COAT THE POLYCARBONATE FILTER WITH CARBON, DISSOLVE THE FILTER, AND SCAN BY TRANSMISSION ELECTRON MICROSCOPY AT 10,000 TO 20,000 MAGNIFICATION. IDENTIFY CHRYSOTILE BY MORPHOLOGY AND AMPHIBOLES BY SELECTED AREA ELECTRON DIFFRACTION. AMPHIBOLE MINERAL SPECIES CAN BE IDENTIFIED USING ENERGY-DISPERSIVE X-RAY ANALYSIS OF EACH FIBER. SENSITIVITY IS APPROXIMATELY 250,000 FIBERS PER LITER OR LESS IN MOST DRINKING WATER SYSTEMS. TWO GENERAL ELECTRON MICROSCOPIC TECHNIQUES ARE USED FOR ANALYSIS OF ASBESTOS IN AMBIENT AIR. ONE INVOLVES DIRECT TRANSFER OF ASBESTOS COLLECTED ON CELLULOSE ACETATE OR POLYCARBONATE FILTERS TO ELECTRON MICROSCOPE GRIDS. THE OTHER INVOLVES DISPERSING THE ASHED RESIDUE BY PHYSICAL MEANS AND ENMESHING IN A NITROCELLULOSE OR CCLLODION FILM FOR MOUNTING ON ELECTRON MICROSCOPE GRIDS OR REFILTERING THROUGH A POLYCARBONATE FILTER. (AWQCD* 0008)

(STD) Standard Codes: SUPERFUND DESIGNATED (HAZARDOUS SUBSTANCES) LIST. NIOSH NO. CI6475000. DOT--HAZARD CLASS ORM-C, NO IDENTIFICATION NO., NO REQUIRED LABEL, PACKAGING EXCEPTION AND SPECIFIC REQUIREMENTS IN 173.1090 (SYNOPSIS IS IN FIELD 14), NO PACKAGE WEIGHT LIMIT ON PASSENGER AIRCRAFT OR RAILCAR OR CARGO ONLY AIRCRAFT. STOW AND HANDLE TO AVOID AIRBORNE PARTICLES. (FEREAC 0017) IMCO--NO LABEL REQUIRED. BLUE ASBESTOS (CROCIDOLITE) IS IMCO CLASS 9 (MISCELLANEOUS DANGEROUS SUBSTANCES), UN2212, PACKAGING GROUP II. WHITE ASBESTOS (CHRYSOTILE) IS IMCO CLASS 9, UN2590, PACKAGING GROUP III. STOW ON OR UNDER DECK. (85EZAO 0001) IATA--CLASS ORA.C. PACKAGES OF ASBESTOS FIBERS SHALL BE PLAINLY MARKED "ORA.GROUP C--ASBESTOS". NO WEIGHT LIMIT ON PASSENGER OR CARGO AIRCRAFT. (RARAD5 0002)

(FLM) Flammability: NONFLAMMABLE (CFCTS* 0001)

(SLC) Solubility Characteristics: SOLUBILITY PRODUCT CONSTANTS FOR VARIOUS CHRYSOTILE FIBERS RANGE FROM 1.0E-11 TO 3E-12. (AWQCD* 0008) 2.85 TO 3.1 (ANTHOPHYLLITE); 2.55 (CHRYSOTILE); 3.337 (CROCIDOLITE); 3.45; 3.43 (AMOSITE) (AWQCD* 0008) (IMEMDT 0003)

(PER) Persistency: ASBESTOS IS REFRACTORY IN THE AQUATIC ENVIRONMENT. BASED ON LABORATORY EXPERIMENTS, ASBESTOS IN WATER WILL STAY IN SUSPENSION FOR A LONG TIME. IT WILL REMAIN IN THE WATER COLUMN UNTIL SURFACE CHARGE COAGULATION OR CHANGES IN FLOW REGIME ALLOW IT TO SETTLE OUT OF THE SYSTEM. ASBESTOS FIBERS RELEASED TO THE AQUATIC ENVIRONMENT FROM THE DUMPING OF TACONITE TAILINGS INTO LAKE SUPERIOR HAVE TRAVELLED AT LEAST 75 MILES FROM THEIR POINT OF RELEASE (DETECTED IN DRINKING WATER IN DULUTH, MN). THE FIBERS ARE BEING COAGULATED AND SEDIMENTED IN THE WESTERN PART OF THE LAKE NEAR THE TAILING DELTA. IF THIS WERE NOT OCCURRING, THE CALCULATED CONCENTRATION WOULD BE 3.5 MILLION FIBERS PER LITER THROUGHOUT LAKE SUPERIOR. ACTUALLY, ONLY ONE MILLION FIBERS PER LITER ARE PRESENT IN EASTERN LAKE SUPERIOR. THE GREATER THE DISTANCE FROM THE TAILINGS, THE RICHER IN MAGNESIUM THE ASBESTOS BECAME. (USPEDU 0002)

(PFA) Potential for Accumulation: MINERAL FIBERS IDENTICAL TO THOSE IN THE WATER OF A RIVER WITH KNOWN CHRYSOTILE ASBESTOS CONTAMINATION AND IN LAKE SUPERIOR WATER CONTAMINATED WITH AMPHIBOLE FIBERS WERE FOUND IN TISSUE SAMPLES FROM THE RIVER AND LAKE TROUT, BROOK TROUT, AND CHANNEL CATFISH IN THE LAKE. CONCENTRATIONS IN THE MUSCLE WERE APPROXIMATELY ONE-TWELFTH THE AVERAGE WATER CONCENTRATIONS (BY VOLUME). LIVER AND KIDNEY FIBER CONCENTRATIONS WERE 500 TIMES GREATER THAN MUSCLE TISSUE CONCENTRATIONS. (AWQCD* 0008)

(CAG) Carcinogenicity: ALL TYPES OF COMMERCIAL ASBESTOS FIBERS TESTED IN MICE, RATS, HAMSTERS, AND RABBITS HAVE PROVED TO BE CARCINOGENIC. THEY PRODUCED MESOTHELIOMAS AND LUNG CARCINOMAS AFTER INHALATION AND AFTER INTRAPERITONEAL, INTRATRACHEAL, AND INTRAPLEURAL ADMINISTRATION. A HIGH INCIDENCE OF LUNG CANCER IS ASSOCIATED WITH OCCUPATIONAL EXPOSURE. (2CARC* 0001) STUDIES IN ANIMALS AND HUMANS SUPPORTING THE CARCINOGENICITY OF ASBESTOS FROM INGESTION AND INHALATION ARE CRITICALLY REVIEWED IN "AMBIENT WATER QUALITY CRITERIA FOR ASBESTOS" (AWQCD* 0008). EARLIER REVIEWS INCLUDE THOSE PUBLISHED BY THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) IN 1977 (IMEMDT 0013) AND IN 1973 (IMEMDT 0003). IARC SUMMARIZED IN ITS 1977 REPORT AS FOLLOWS: THE INCIDENCE OF TUMORS IS INFLUENCED BY THE SIZE AND SHAPE OF THE FIBERS. FIBERS LESS THAN 0.5 .MU.M IN DIAMETER ARE MORE ACTIVE IN PRODUCING TUMORS. OCCUPATIONAL EXPOSURE TO CHRYSOTILE, AMOSITE, ANTHOPHYLLITE, AND MIXED FIBERS CONTAINING CROCIDOLITE HAS RESULTED IN A HIGH LUNG CANCER INCIDENCE. AN INCREASED INCIDENCE OF LUNG CANCER HAS ALSO RESULTED FROM EXPOSURE TO PREDOMINANTLY TREMOLITIC MATERIAL MIXED WITH ANTHOPHYLLITE AND SMALL AMOUNTS OF CHRYSOTILE. PLEURAL AND PERITONEAL MESOTHELIOMAS FOLLOW OCCUPATIONAL EXPOSURE TO CROCIDOLITE, AMOSITE, AND CHRYSOTILE. GROUPS EXPOSED TO AMOSITE, CHRYSOTILE, OR MIXED FIBERS CONTAINING CROCIDOLITE SHOW AN EXCESS RISK OF

GASTROINTESTINAL TRACT CANCERS. EXCESS CANCERS OF THE LARYNX HAVE ALSO BEEN OBSERVED IN EXPOSED WORKERS. INDIVIDUALS LIVING IN THE NEIGHBORHOOD OF ASBESTOS FACTORIES AND CROCIDOLITE MINES AND IN HOUSEHOLDS CONTACTING ASBESTOS WORKERS ALSO DEVELOP MESOTHELIOMAS. (IMEMDT 0013) ANTHOPHYLLITE IS THE ONLY COMMERCIAL TYPE OF ASBESTOS NOT ASSOCIATED WITH INDUCTION OF MESOTHELIOMA. CIGARETTE SMOKING ENHANCES THE RISK OF DEVELOPING BRONCHOGENIC CANCER IN WORKERS EXPOSED TO ASBESTOS. NO ASSOCIATION HAS BEEN DEMONSTRATED BETWEEN CIGARETTE SMOKING AND DEVELOPMENT OF MESOTHELIOMA. (SATCA* 0001) OF PERSONS WHO HAVE BEEN HEAVILY EXPOSED TO ASBESTOS, 35 TO 44% MAY DIE OF ASBESTOS-RELATED CANCERS, WHEREAS ONLY ABOUT 8 TO 9% WOULD BE EXPECTED TO DIE OF CANCER HAD THEY NOT BEEN EXPOSED. ASBESTOS-RELATED CANCERS APPEAR TO BE 20 TO 25% LUNG CANCER, 7 TO 10% PLEURAL OR PERITONEAL MESOTHELIOMA, AND 8 TO 9% GASTROINTESTINAL CANCER. (DOSS** 1,81/MEI)

(MUT) Mutagenicity: THE PASSIVE INCLUSION OF ASBESTOS IN CULTURE MEDIA OF CHO-K1 CHINESE HAMSTER CELLS GAVE BOTH POSITIVE TRANSFORMATION OF MORPHOLOGY AND POSITIVE GENETIC RESPONSES, (THE RESULTS WERE SIMILAR FOR VERY FINE FIBROUS GLASS.)CHEMICALLY LEACHED ASBESTOS FIBERS PRODUCED FEWER ABNORMALITIES THAN DID UNTREATED FIBERS. NO MUTAGENICITY WAS OBSERVED IN TESTS OF SAMPLES OF CHRYSOTILE, AMOSITE, ANTHOPHYLLITE, AND SUPERFINE CHRYSOTILE WITH SEVERAL STRAINS OF ESCHERICHIA COLI AND SALMONELLA TYPHIMURIUM BACTERIA. (AWQCD* 0008)

(TER) Teratogenicity: TRANSPLACENTAL TRANSFER OF ASBESTOS HAS BEEN REPORTED. (AWQCD* 0008) SCHNEIDER AND MAURER (1977) FOUND NO TERATOGENIC EFFECTS AFTER FEEDING MICE UP TO 143 .MU.G CHRYSOTILE ASBESTOS PER MILLILITER DRINKING WATER. SOME DECREASE IN POSTIMPLANTATION SURVIVAL FOLLOWED BLASTOCYST EXPOSURE TO CHRYSOTILE ASBESTOS. (CTAGD8 0001)

(ATB) Animal Toxicity Text:

Value	Time	Species	Param.	Route	Ref.

SEE THE REVIEWS MENTIONED IN FIELD CAG.

(INT) Inhalation Limit (Text): REGULATIONS--
OSHA PEL (TWA) 2 FIBERS >5 .MU.M/CM3 (29CFR* 1910)
OSHA CEILING 10 FIBERS >5 .MU.M/CM3 (29CFR* 1910)
RECOMMENDATIONS--
NIOSH CEILING 500000 FIBERS >5 .MU.M/M3/15 MIN (CRSOE* 77-169,77/NIOSH)
NIOSH TWA 100000 FIBERS >5 .MU.M/M3/15 MIN (CRSOE* 77-169,77/NIOSH)
ACGIH SUSPECT CARCINOGEN (TLVADM 83/ACGIH)
ACGIH TLV (TWA) 2 FIBERS >5 .MU.M/CM 3 (OTHER FORMS) 0.5 FIBER >5 .MU.M/CM3 (AMOSITE) 2 FIBERS >5 .MU.M/CM3 (CHRYSOTILE) 0.2 FIBER >5 .MU.M/CM3 (CROCIDOLITE)\\(TLVADM 83/ACGIH)
UPDATED 3/84.

(DRC) Direct Contact: EXPOSURE TO ANY OF THE FORMS OF ASBESTOS CAN PRODUCE IRRITATION OF THE NOSE, THROAT, AND EYES. (CFCTS* 0001)

(JNS) General Sensation: SHORT-TERM BREATHING OF HIGH CONCENTRATIONS OF ASBESTOS DUST MAY CAUSE TEMPORARY BREATHING DIFFICULTIES. (AWQCD* 0008)

(DRR) Recommended Drinking Water Limits (Reference): FOR MAXIMUM PROTECTION OF HUMAN HEALTH, THE RECOMMENDED CONCENTRATION OF ASBESTOS IN WATER IS ZERO SINCE THERE IS NO RECOGNIZED SAFE CONCENTRATION FOR A HUMAN CARCINOGEN. CRITERIA CONCENTRATIONS OF 3,000; 30,000; AND 300,000 FIBERS PER LITER HAVE RISK LEVELS OF ONE ADDITIONAL CASE OF CANCER FOR EVERY TEN MILLION, ONE MILLION, AND TEN THOUSAND PERSONS EXPOSED, RESPECTIVELY. THESE LATTER CRITERIA ARE BASED ON THE ASSUMPTION OF LIFETIME EXPOSURE FROM THE CONSUMPTION OF DRINKING WATER ONLY. THESE RISK ESTIMATES USED A LINEAR EXTRAPOLATION FROM EXISTING HUMAN DATA. (AWQCD* 0008)

(SAF) Personal Safety Precautions: FOR EXPOSURES THAT EXCEED ALLOWABLE LIMITS BY 100 TIMES, USE A TYPE "C" CONTINUOUS FLOW OR PRESSURE-DEMAND SUPPLIED-AIR RESPIRATOR. FOR EXPOSURES EXCEEDING THE LIMITS (CEILING OR TIME-WEIGHTED AVERAGE) BY TEN TO 100 TIMES, USE A POWERED AIR PURIFYING RESPIRATOR. FOR EXPOSURES UP TO TEN TIMES THE PERMISSIBLE LIMIT, USE A REUSEABLE OR SINGLE-USE AIR-PURIFYING RESPIRATOR. CONTAMINATED CLOTHING TO BE LAUNDERED SHOULD BE PUT IN SEALED BAGS AND LABELLED. (JSAFH* 0001) (29CFR* 0001) SPECIAL CLOTHING SUCH AS COVERALLS OR SIMILAR WHOLE BODY CLOTHING, HEAD COVERINGS, GLOVES, AND FOOT COVERINGS ARE REQUIRED BY OSHA FOR EMPLOYEES EXPOSED TO ASBESTOS FIBER CONCENTRATIONS THAT EXCEED THE CEILING LEVEL. (29CFR* 0001)

(AHL) Acute Hazard Level: ACCORDING TO A 1980 REVIEW PUBLISHED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY, ACUTE EFFECTS FROM INHALING HIGH CONCENTRATIONS OF ASBESTOS DUST ARE OF LITTLE CONSEQUENCE EXCEPT FOR TEMPORARY BREATHING DIFFICULTY. ACCORDING TO THE 1972 NIOSH CRITERIA DOCUMENT ON ASBESTOS, "THE EFFECT AFTER SEVERAL DECADES OF A ONE-TIME ACUTE DOSE OF LIMITED DURATION WHICH OVERWHELMS THE CLEARING MECHANISM, AND IS RETAINED IN THE LUNGS, MAY BE AS HARMFUL AS THE CUMULATIVE EFFECT OF LOWER DAILY DOSES OF EXPOSURE OVER MANY YEARS OF WORK". (NIOAS* 0001) ACCORDING TO THE INTER-GOVERNMENTAL MARITIME CONSULTATIVE ORGANIZATION, INHALATION OF THE DUST OF ASBESTOS FIBERS IS DANGEROUS AND EXPOSURE SHOULD BE AVOIDED AT ALL TIMES. CROCIDOLITE (BLUE ASBESTOS) SHOULD BE REGARDED AS THE MOST HAZARDOUS TYPE OF ASBESTOS. (85EZAO 0001)

(CHL) Chronic Hazard Level: LONG CONTINUED INHALATION OF ASBESTOS DUST RESULTS IN ASBESTOSIS, A FORM OF PNEUMOCONIOSIS. THE PRIMARY EFFECT OF INHALATION IS AN INTERSTITIAL PULMONARY FIBROSIS. THE DISEASE IS CHARACTERIZED BY ASBESTOS BODIES IN THE LUNGS AND SPUTUM. ASBESTOSIS CAN BE CLASSIFIED AS MINIMAL, MODERATE, AND ADVANCED BASED ON X-RAY EXAMINATION. IT REMAINS NONDISABLING FOR MANY YEARS IN MOST CASES. AN INCREASED INCIDENCE OF LUNG CANCER IN PERSONS WITH ASBESTOSIS HAS BEEN REPORTED. (AIHG** 0001)

(HEL) Degree of Hazard to Public Health: THERE DOES NOT APPEAR TO BE ANY CANCER RISK TO THE GENERAL PUBLIC FROM ASBESTOS IN AIR, WATER, BEVERAGES, FOOD, OR IN FLUIDS USED FOR ADMINISTRATION OF DRUGS. ASBESTOSIS AND PULMONARY CARCINOMA IN HUMAN BEINGS HAVE CONSISTENTLY BEEN ASSOCIATED ONLY WITH HEAVY INDUSTRIAL CONTACT WITH ASBESTOS. (SATCA* 0001)

(AML) In Situ Amelioration: SEEK PROFESSIONAL ASSISTANCE FROM EPA'S ENVIRONMENTAL RESPONSE TEAM (ERT), EDISON, NJ, 24-HOUR NO. (201)321-6660. CONTAIN AND ISOLATE SPILL TO LIMIT SPREAD. CONSTRUCT A CLAY/BENTONITE SWALE TO DIVERT UNCONTAMINATED PORTION OF WATERSHED AROUND CONTAMINATED PORTION. ISOLATION PROCEDURES INCLUDE CONSTRUCTION OF BENTONITE LINED DAMS, INTERCEPTOR TRENCHES, OR IMPOUNDMENTS. IF DISPERSED IN WATER, COLLECT ASBESTOS BY FILTRATION. (85PEAY 0001) CONTAMINATED SOIL OR IMMOBILIZED RESIDUES MAY BE PACKAGED FOR DISPOSAL. CONFIRM ALL TREATMENT PROCEDURES WITH RESPONSIBLE ENVIRONMENTAL ENGINEER AND REGULATORY OFFICIALS.

(DIS) Disposal Method: ASBESTOS WASTE MAY BE DISPOSED OF IN A CLASS I OR II LANDFILL AS A BULK MATERIAL. (85PEAY 0001) (RMRNR* 0002) BURN IN AN OPEN FURNACE OR CLOSED FURNACE WITH AFTER BURNER, WHICH PROBABLY DESTROYS MICROCRYSTALLINE STRUCTURES. (THIDD6 0002) ALTERNATIVELY, PACKAGE AND RETURN TO ORIGINATOR FOR RECOVERY AND RESALE.

(LOC) Probable Location and State of Material: ASBESTOS IS A FIBROUS MAGNESIUM CALCIUM SILICATE THAT OCCURS IN VARIOUS COMBINATIONS AS WHITE, GRAYISH, OR GREENISH MASSES, EITHER COMPACT OR OF LONG SILKY FIBERS, FLAX-LIKE AND READILY SEPARATED. (AIHG** 0001) ASBESTOS INTRODUCED TO SURFACE WATERS WILL REMAIN SUSPENDED UNTIL PHYSICAL DEGRADATION OR CHEMICAL COAGULATION ALLOWS IT TO SETTLE INTO THE SEDIMENT LAYER. (USPEDU 0002)

(HOH) Water Chemistry: MINERALOGICALLY STABLE, ASBESTOS IS NOT SUBJECT TO SIGNIFICANT CHEMICAL OR BIOLOGICAL DEGRADATION IN THE AQUATIC ENVIRONMENT. (USPEDU 0002) CHRYSOTILE IS THE MOST SUSCEPTIBLE ASBESTOS MINERAL TO ACID ATTACK, BEING ALMOST COMPLETELY DESTROYED WITHIN ONE HOUR IN ONE NORMAL HYDROCHLORIC ACID AT 95 DEGREES CELSIUS. THE AMPHIBOLE FIBERS ARE MUCH MORE RESISTANT TO MINERAL ACIDS. UP TO APPROXIMATELY 100 DEGREES CELSIUS, ASBESTOS FIBERS RESIST ATTACK BY OTHER REAGENTS BUT DETERIORATE RAPIDLY AT HIGHER TEMPERATURES. CONCENTRATED POTASSIUM HYDROXIDE AT 200 DEGREES CELSIUS WILL COMPLETELY DECOMPOSE CHRYSOTILE. (AWQCD* 0008) AT 5 TO 45 DEGREES CELSIUS, THE RATE OF THE DISSOLUTION OF CHRYSOTILE IS DIRECTLY PROPORTIONAL TO THE SPECIFIC SURFACE AREA OF THE ASBESTOS MINERALS. THE RATE OF DISSOLUTION OF MAGNESIUM FROM THE CHRYSOTILE IS RELATED TO THE PH AND IS FASTER WITH SMALLER PARTICLE SIZE. AT 25 DEGREES CELSIUS, THE ACTIVITY PRODUCT FOR CHRYSOTILE IN WATER IS 10E-51.0. IN DISTILLED WATER AND AT BODY TEMPERATURE, AMOSITE AND CROCIDOLITE ARE INERT. AFTER TWO MONTHS OF LEACHING UNDER THESE CONDITIONS, 1,000 .MU.MOL MAGNESIUM PER GRAM ASBESTOS HAD BEEN LEACHED. (USPEDU 0002) ASBESTOS DOES NOT HAVE AN ADSORPTIVE AFFINITY FOR USUALLY OCCURRING SOLIDS OF NATURAL WATER SYSTEMS. (TRACE MINERALS AND ORGANIC COMPOUNDS HAVE AN AFFINITY FOR ASBESTOS.) A SUSPENSION OF CHRYSOTILE ASBESTOS IN THE PRESENCE OF TRACE METALS WILL PERSIST UNTIL SUFFICIENT MAGNESIUM HAS LEACHED FROM THE
^L CHRYSOTILE TO DEGRADE THE SUSPENSION. (USPEDU 0002)

Option? LOGOFF

Your approximate total CIS session cost is $ 5.21
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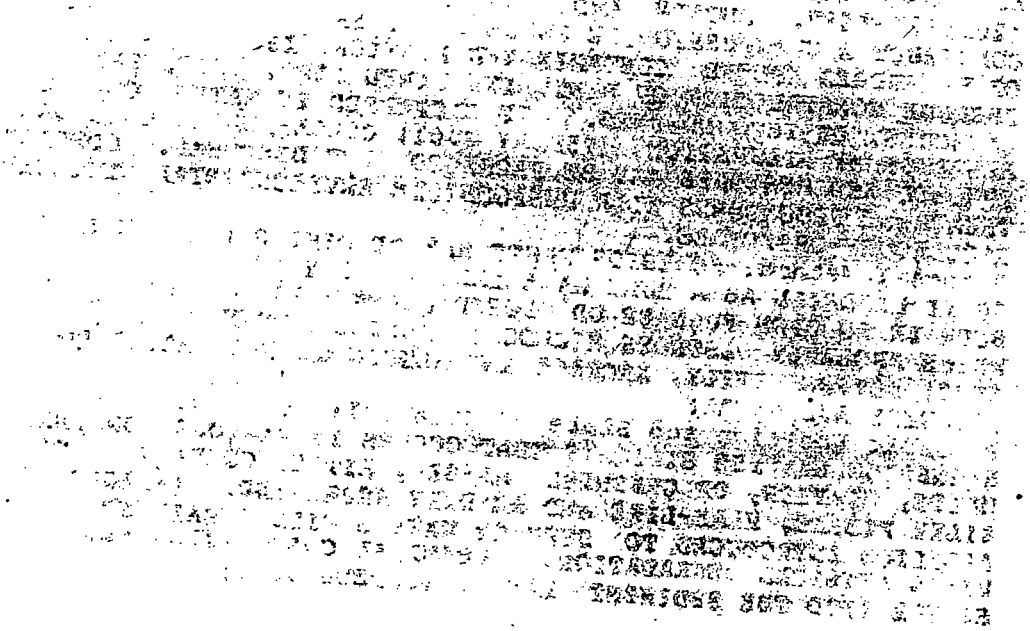

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^L CHRYSOTILE TO DEGRADE THE SUSPENSION. (USPEDU 0002)

Option? LOGOFF

Your approximate total CIS session cost is $ 5.21
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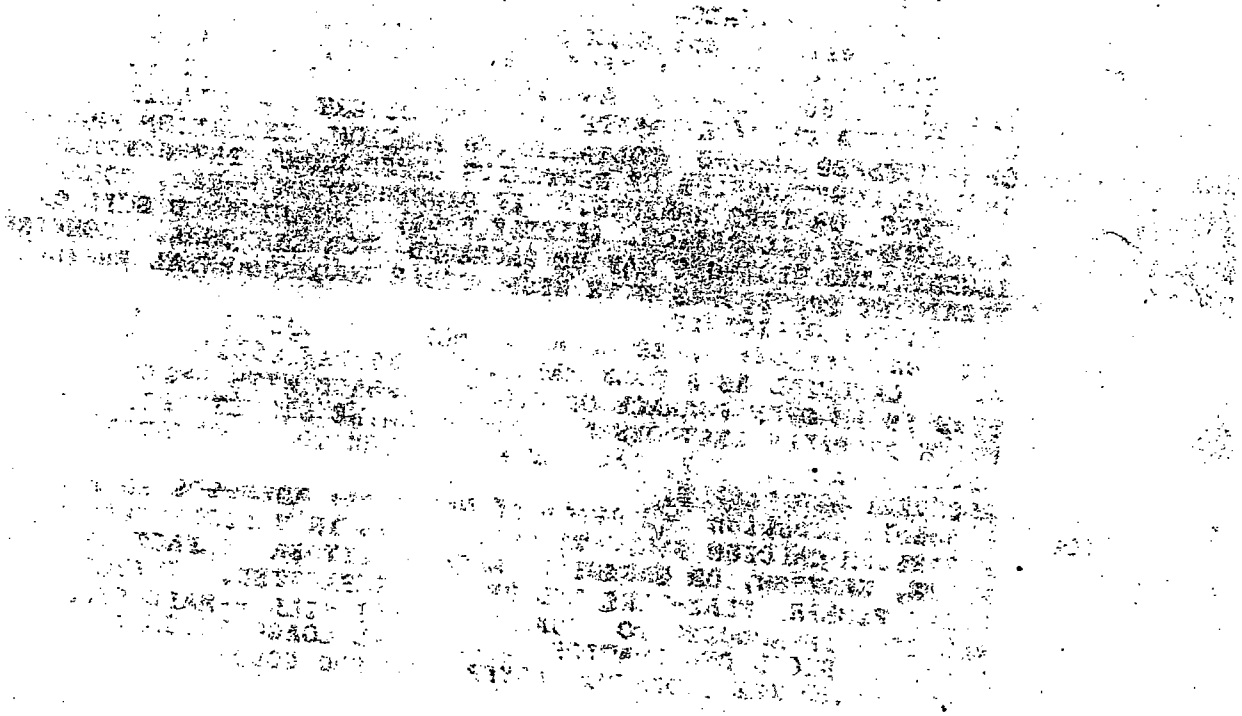
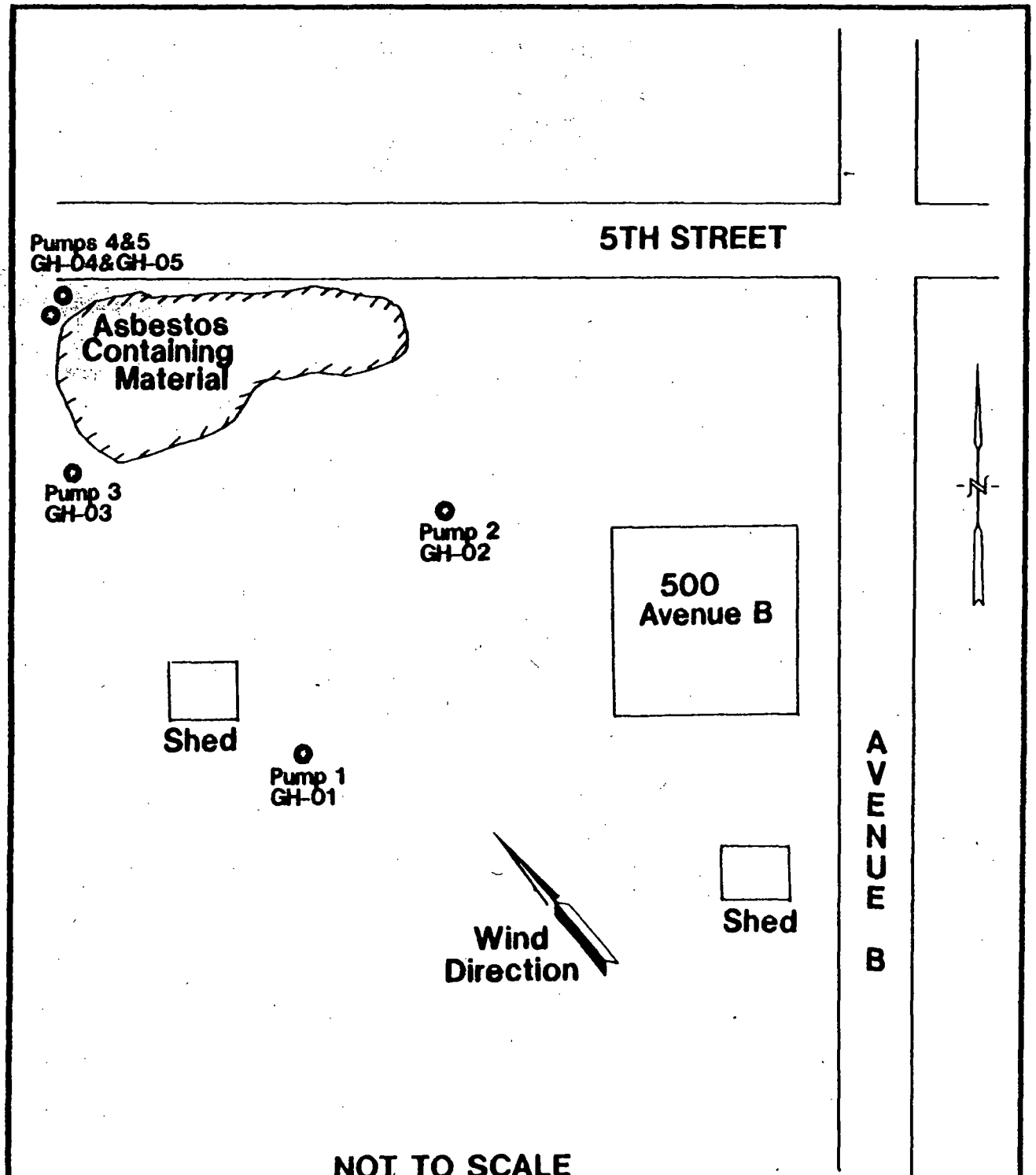
@

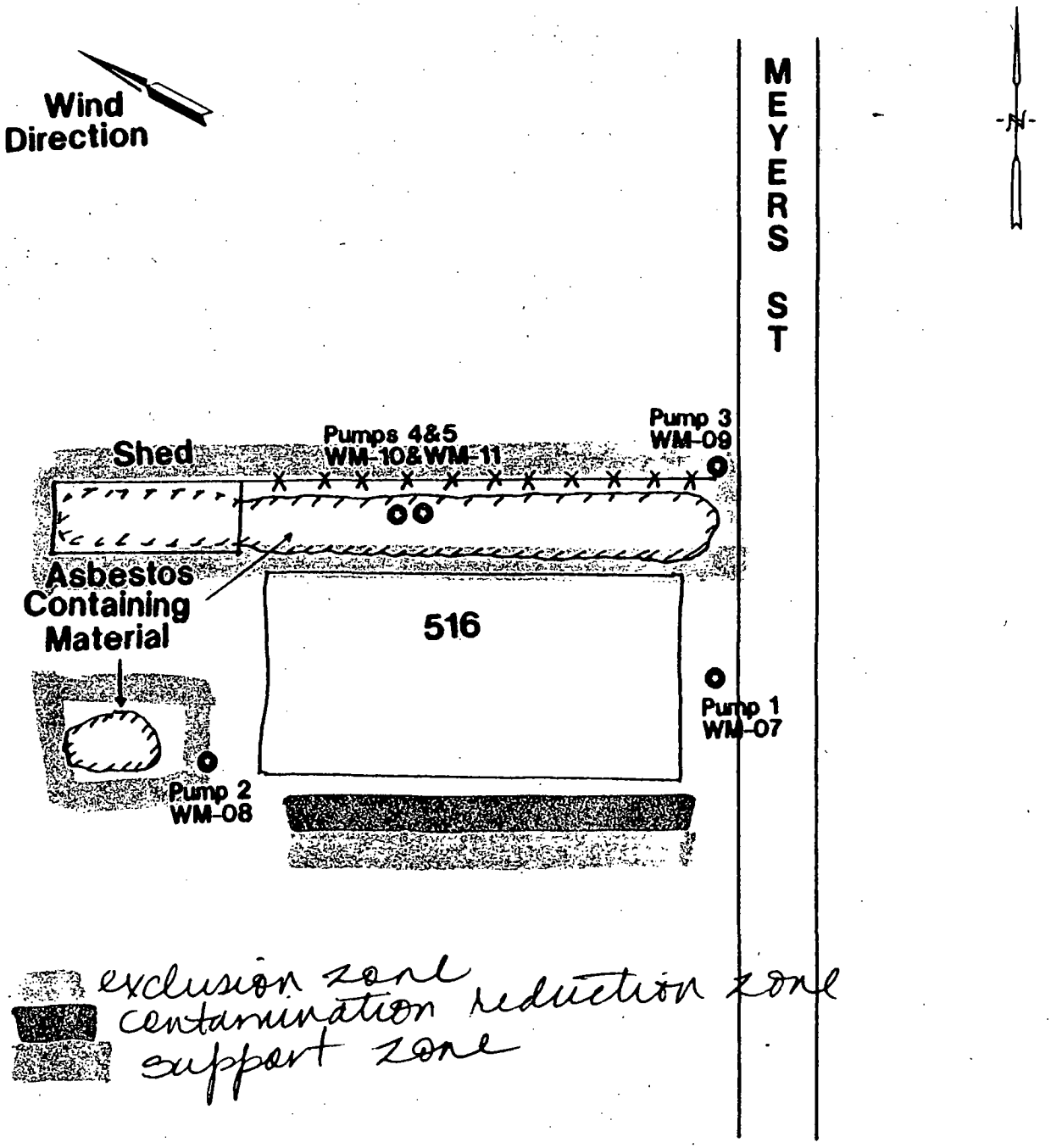


ATTACHMENT B

SITE SKETCHES FROM THE 1990 TAT SITE ASSESSMENT

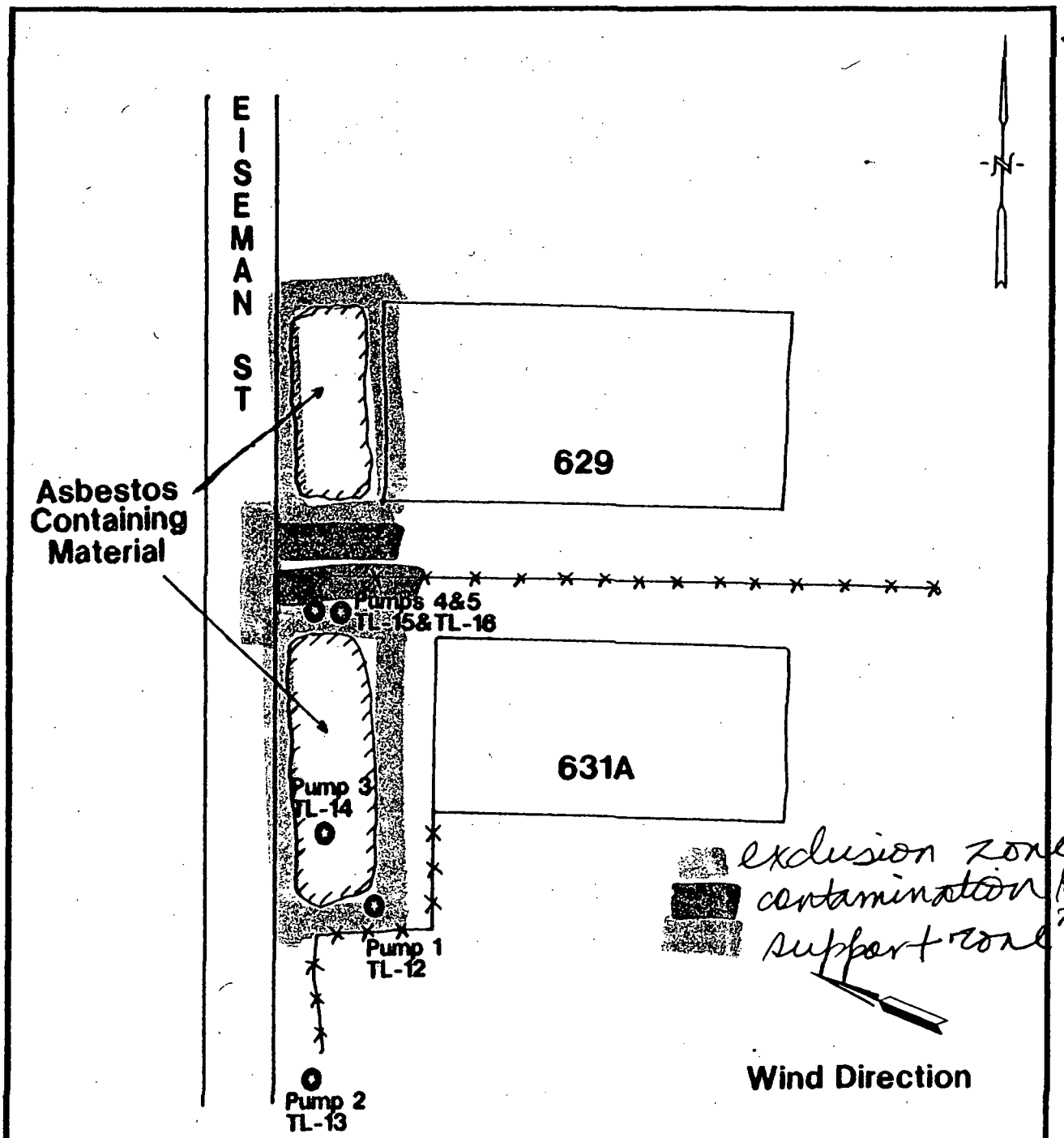


	Ecology and Environment, Inc. Technical Assistance Team Region 6	CERCLIS/CASE# FY90-1364	TDD# T06-9010-54C
		SOURCE: Robert W. Sherman Site Sketch: 500 Avenue B	



NOT TO SCALE

Ecology and Environment, Inc. Technical Assistance Team Region 6	CERCLIS/CASE# FY90-1364	TDD# T06-9010-54C
	SOURCE: Robert W. Sherman Site Sketch: 516 Meyers St.	



NOT TO SCALE

Ecology and Environment, Inc. Technical Assistance Team Region 6	CERCLIS/CASE# FY90-1364	TDD# T06-9010-54C
	SOURCE: Robert W. Sherman Site Sketch: 631A Eisman St.	

ATTACHMENT C

VEHICLE ACCIDENT FORMS

PROCEDURES TO FOLLOW WHEN INVOLVED IN A VEHICLE ACCIDENT ON COMPANY TIME

1. Determine if there are any injuries. If so, call for police and medical assistance immediately.

2. Then call the office as soon as possible and ask to speak to the following, in order of priority: 1) Regional Safety Officer, 2) Health & Safety Coordinator, 3) TAT Leader, 4) Assistant TAT Leader. If there are injuries to any E & E personnel, or if there are serious injuries to the other party, try to reach any of these people at home. Try to have as much information as possible about any injuries sustained.

3. The E & E Response Center should be contacted at the 24-hour number (716)(684-8940) (notifying Hans Neumaier) regardless of whether or not the persons listed above have been contacted.

4. If there are no injuries, call the police and then call the office as soon as possible.

You will be asked to provide the following information when you call into the office. Obtain as much information as possible before calling.

1. Name(s) of the ovner(s) of the other vehicle(s) involved and any occupants.

2. Injuries to occupants of other vehicles(s),
( ) minor, ( ) severe, ( ) fatal.

3. Insurance carrier(s) of the other party(ies).

4. License plate and vehicle registration number of the other vehicle(s) involved. In addition, note the make, model, and year of the car(s).

5. Name(s) of our driver and any occupants.

6. Injuries to our company driver & any occupants in company vehicle...if so, ( ) minor, ( ) severe, ( ) fatal.

7. License plate and serial number of our vehicle as well as the make, model and year. If our vehicle is a rental car, also state the rental agency location, obtain a copy of the rental company accident report, and forward a copy of the rental agreement and the rental company accident report to E & E.

8. Location and time of the accident.

ATTACHMENT 1
EQUIPMENT/SUPPLIES CHECKLIST

SAMPLING EQUIPMENT		MISCELLANEOUS (Cont.)	
8-oz. bottles		Gatorade or equivalent	✓
Half-gallon bottles		Tables	
VOA bottles		Chairs	
String		Weather radio	
Hand bailers		Two-way radios	
Thieving rods with bulbs		Binoculars	
Spoons		Megaphone	
Knives		Cooling vest	
Filter paper			
Bottle labels			
		SHIPPING EQUIPMENT	
		Coolers	
MISCELLANEOUS		Paint cans with lids, 7 clips each	
Pump		Vermiculite	
Surveyor's tape		Shipping labels	
100' Fiberglass tape		DOT labels:	
300' Nylon rope		"Up"	
Nylon string		"Danger"	
Surveying flags		"Inside Container Complies ..."	
Camera	✓	Hazard Group	
Film	✓	Strapping tape	
Bung wrench		Baggies	
Soil auger		Custody seals	
Pick		Chain-of-custody forms	
Shovel		Federal Express forms	
Catalytic heater		Clear packing tape	
Propane gas		Permanent markers	
Banner tape			
Surveying meter stick			
Chaining pins and ring			
Logbooks (____ large, ____ small)	✓		
Required MSDSs			
Intrinsically safe flashlight			
Potable water			

VEHICLE ACCIDENTS, PROPERTY LOSS, THEFT, ETC.

When an accident does occur, it is very important to notify HQ and Regional Office as soon as possible! We have designed a form that covers all the required information for the company and our insurance carrier (see attached). The importance of timely notification of detailed information to HQ cannot be stressed enough.

Call/fax the form to HQ as soon as possible with accident information. Include how and when we can reach you with further instructions or questions.

Here are some pertinent steps that should be followed:

INJURIES
-Notify E & E Personnel Dept. or Emergency Response Center

RENTAL CAR
-Call police if accident involves another vehicle or injuries
-Exchange license and registration information
-Call car rental agency and inform them of the accident. Give them HQ address, phone number and Admin. Services Dept. (716/684-8060, EXT. 2802) for future contact
-If car is not drivable, inform rental agency to provide towing
-Complete rental agency's accident report form and send copy to HQ along with copy of rental agreement (both sides)

CORPORATE VEHICLE
-Call police if accident involves another vehicle or injuries
-Exchange license and registration information
-Notify Headquarters or Region to receive instructions
-Complete E & E's "Notice Of Loss" report and send to HQ/Region
-If appropriate, send at least three estimates and P.R., etc. to HQ/Region

GOVERNMENT EQUIPMENT
The local police need to be summoned regardless of the extent of damage.

All capital equipment items that are missing, stolen, or damaged need to be reported to the ZPMO so the appropriate documentation (see attached Report of Theft/Loss, etc.) and reporting to EPA can be conducted. Timely reporting will also facilitate replacement or repair to the item.

Attached to this form should be any police reports, photographs, estimates for replacement or repair and logbook entries related to the condition of the equipment. If appropriate, include PRs and 7-point justification documents for quick replacement. Equipment that is missing, stolen or damaged should be reported to the ZPMO within 5 working days of the incident.

PERSONAL VEHICLE
Personal vehicles used for work are not insured by the company. Though the company pays for mileage, coverage for damage to your car, personal injury or other involved property is your own responsibility. Moving violations and traffic tickets received while on the job are entirely the responsibility of the employee.

**Remember - if you are involved in an accident give only the facts, do not admit fault.

FAX (716) 684-0844

TYPE OF LOSS:
- Automobile ____
- Other Liability ____
- Fire ____
- Theft ____

OWNERSHIP OF VEHICLE:
- Rental ____
- Government ____
- E & S ____

DATE & TIME OF LOSS: _____

POLICE OR FIRE DEPT. TO WHOM REPORTED: _____

LOCATION OF ACCIDENT OR LOSS: _____

ROAD CONDITIONS: _____

DESCRIPTION: _____

VEHICLE INFO: _____
(Year, Make, Model, License Plate #, VIN #, Rental Agreement #)

DRIVER INFO: _____
(Name, Address, License #, Date of Birth)

OTHER VEHICLE & DRIVER INFO: _____
(Year, Make, Model, License Plate #, Name, Address, License #, Phone, Alternate Phone Numbe

DAMAGE TO YOUR VEHICLE: _____

DAMAGE TO OTHER VEHICLE: _____

OTHER VEHICLE OR PROPERTY INSURED? ____ If yes, Name of Insurance Company, Address and Policy Number: _____

INJURED: _____
(Name, Address, Age, Extent of Injuries, Hospital)

WITNESSES: _____
(Name, Address, Phone Numbers)

ADDITIONAL INFORMATION OR REMARKS: _____

*PLEASE ATTACH THE FOLLOWING INFO: Police Report, Photographs, Copy of Rental Agreement (b sides), Rental Accident Report. IF APPLICABLE, send Estimates, Repair Bills, PR, etc. as s as possible. 8/94

TAT - Zone II

REPORT OF THEFT/LOSS/DAMAGE OF GOVERNMENT-OWNED PROPERTY

Instructions: This report is to be completed to the fullest extent possible, as soon as possible. In the event of positive discovery of theft or loss, the appropriate Regional and Zone Program Management Office program and equipment managers must be notified, immediately. The ZPMO representative will then notify the EPA-HQ Program Contract Officer and Property Administrator.

EPA Program: _____
EPA Region: _____

1. Event currently being reported (circle one):

   (a) THEFT ... Notify ZPMO by telephone, immediately, and follow up with police report and employee statement describing related details, to include summary of corrective action taken to prevent future thefts.

   (b) LOSS .... Provide ZPMO with employee statement describing related details and attempts made to locate lost item(s). This type of report should be made after exhausting hope of locating item(s).

   (c) DAMAGE .. In the event of damage beyond economical repair, provide ZPMO with statement describing how item(s) became damaged.

2. Inventory information for item(s) now being reported:

   (a) Item Description: (1) _____
   (2) _____
   (3) _____

   (b) Serial Number: (1) _____
   (2) _____
   (3) _____

   (c) EPA Decal Number: (1) _____
   (2) _____
   (3) _____

3. Details (as appropriate):

   (a) Status/location of item(s) at time of event: _____
   _____

   (b) Date/time of event: _____

   (c) Person in charge of item(s), if signed out: _____

   (d) Other individuals on job (for signed-out item(s): _____
   _____

(e) Individual who discovered event: _____

REPORT OF THEFT/LOSS/DAMAGE OF GOVERNMENT-OWNED PROPERTY, page 2

(f) Date/time of discovery of event: _____

(g) Date/time/location of last sighting of item(s): _____

(h) Person last sighting item(s): _____

(i) Other details: _____

(j) Actions taken to locate item(s): _____

(k) Authorities notified/reports filed: _____

(l) Measures taken to prevent repeat of event: _____

(m) Estimated cost of repair, for damaged items: _____

4. Name of individual filing report: _____
   Signature/Date: _____

5. Name of regional equipment coordinator: _____
   Signature/Date: _____

Attachments: police report _____
log book entry _____
estimate for replacement/repair _____
other (specify)

ZPMO use:

1. Report filed with EPA-HQ:

   (a) Date: _____
   (b) To attention of: _____
   (c) Filed by/signature: _____
   (attach copy of report)

2. Other follow up action taken: _____

ATTACHMENT D

COLD STRESS PREVENTION AND TREATMENT

COLD STRESS PREVENTION AND TREATMENT

Cold temperatures are potentially hazardous, especially when work is conducted without appropriate precautions. The following sections describe cold stress prevention and the recognition and treatment of cold stress emergencies.

Preventing Emergencies Due to Cold Stress

When working in situations where the ambient temperature is low, especially if low temperatures are accompanied by windy conditions, personnel should use the following cold-stress prevention measures:

- Wear warm, dry, loose-fitting clothing that is preferably worn in layers. Outer clothing should be waterproof and windproof. Inner clothing should be capable of retaining warmth even when it is wet (e.g., wool or polypropylene) or have wicking capabilities (to draw moisture and perspiration away from the skin).
- Wear lined and insulated footwear and warm gloves or mittens.
- Alternately remove and don clothing layers as necessary to regulate body temperature and reduce excess perspiration.
- Drink warm fluids as often as desired.
- Take frequent breaks to provide for cold stress monitoring.

Cold Stress Emergencies

Hypothermia. Exposure to cold can cause the body's internal temperature to drop to a dangerously low level. Hypothermia occurs when a person's body loses heat faster than it can be produced. The body's normal deep-body temperature is approximately 98.6 degrees Fahrenheit. If body temperature drops to 95 degrees Fahrenheit, uncontrollable shivering may occur. If cooling continues, these other symptoms may occur:

- Vague, slow, slurred speech;
- Forgetfulness, memory lapses;
- Inability to use hands;
- Frequent stumbling;
- Drowsiness;
- Exhaustion, collapse;
- Unconsciousness; and
- Death.

Hypothermia impairs the judgment of the victim. Hypothermia is possible even in temperatures above freezing and can be prevented by remaining warm and dry and avoiding overexposure to the cold.

If a person shows symptoms of hypothermia, perform the following:

- Remove the victim from exposure to wet and cold weather.
- Remove wet clothing.
- If the victim is only mildly affected, provide warm drinks and dry clothing.
- If the victim is more seriously affected (clumsy, confused, unable to shiver), begin safe warming procedures such as hugging, wrapping in dry blankets, and the use of warm objects such as hot water bottles or heat packs, and arrange for evacuation. Do not give the victim warm drinks until he or she exhibits a clear level of consciousness and appears to be warming up.

Frostbite. Frostbite occurs when body tissue freezes. Severe frostbite can lead to reduced circulation and the possible need for amputation. To prevent frostbite, maintain good circulation and keep extremities warm and dry. In extreme cold, it is important to prevent heat loss from as many areas of the body as possible. Exposed limbs and the head are major areas of heat loss.

Tall, thin people; those in poor physical condition; people with chronic diseases; heavy smokers; children; the elderly; and those who have been drinking alcohol are more susceptible to frostbite than other people due to poor circulation, poor production of body heat, or both.

There may be no pain or numbness experienced with gradual freezing of body tissues. While in the cold, it is important to test extremities for sensation and ensure that clothing is loose-fitting and warm. Exposed parts of the body should be inspected routinely. Just before freezing, skin becomes bright red. As freezing continues, small white patches will appear and the skin will become less elastic, often remaining pitted after it is touched or squeezed.

Serious freezing is most common in the feet because people are less aware of them, circulation and sensation are poorer, and warm footwear is difficult to obtain. Hands are usually the next to freeze. Exposed parts of the head will freeze less rapidly because they are conditioned to exposure and have a better blood supply.

In very cold weather, avoid touching cold metal with bare body parts. In the event that this happens, release the skin gently using heat, warm water, or urine. Avoid handling gasoline, kerosene, or similar liquids which, when handled in cold weather, can cause immediate frostbite.

If a person shows symptoms of frostbite, consult a medical professional, if possible, and perform the following:

- Initiate rewarming only if subsequent refreezing is not a possibility (thawing and refreezing should always be avoided because this is very injurious to tissue). Rewarm body parts in water that is approximately 100 to 105

degrees Fahrenheit. Do not try to thaw the body parts using cold water, snow, or intense heat from fires or stoves. The whole body may be immersed in warm water if necessary.

- If a large portion of an extremity is frozen when rewarming is initiated, the deep body temperature may drop as cooled blood begins to circulate throughout the body. Provide warm liquids to alleviate this situation.
- Move the afflicted part gently and voluntarily during rewarming.
- Use pain medication if it is available. Rewarming can be acutely painful. After thawing is completed, a deep pain may persist for several days, depending on the severity of the frostbite. Pain may be a good sign as it indicates that nerve function is present.
- A dull purple color, swelling, or blisters indicate serious injury and the need for medical attention. Consult a medical professional.

ATTACHMENT E

FIRST AID INFORMATION

TOO MUCH OF A GOOD THING

Contrary to some beliefs, a tan is not in. Although brief exposure to the sun causes your skin to produce the vitamin D necessary for the healthy formation of bones, long exposure can cause problems, such as sunburn, skin cancer, and early aging—a classic case of too much of a good thing being bad.

There are two kinds of ultraviolet (UV) light rays to be concerned about. Ultraviolet beta rays (UVB) are the burn-producing rays that more commonly cause skin cancer. These are the rays that damage the skin's surface and cause you to blister and peel. The other rays, ultraviolet alpha rays (UVA), have been heralded by tanning salons as "safe rays." Tanning salons claim to use lights that only emit UVA rays. Although UVA rays may not appear as harmful as UVB rays to the skin's surface, they more readily penetrate the deeper layers of the skin. This increases the risk of skin cancer, skin aging, eye damage, and changes that may alter the skin's ability to fight disease.

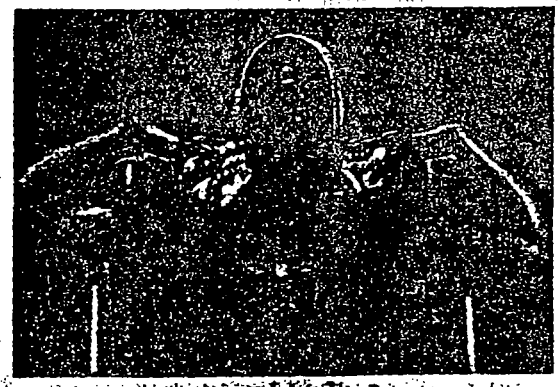
How do you get enough sun without getting too much? First avoid exposure to the sun between 10:00 a.m. and 2:00 p.m. UV rays are most harmful during this period. Second, wear proper clothing. Third, if you are going to be exposed to the sun, protect your skin and eyes.

Commercial sunscreens come in various strengths. The American Academy of Dermatology recommends *year-round sun protection* including use of a high Sun Protection Factor (SPF) sunscreen for everyone, but particularly for people who are fair-skinned and sunburn easily. The Food and Drug Administration (FDA) has evaluated SPF readings and recognizes values between 2 and 15. It has not been determined whether sunscreens with ratings over 15 offer additional protection.

You should apply sunscreen 15 to 30 minutes before exposure to the sun and reapply it often (every 60 to 90 minutes.) Swimmers should use sunscreens labeled as water-resistant and reapply them as described on the label.

Your best bet is to use a sunscreen that claims to protect against both UVB and UVA rays. Carefully check the label to determine the protection a product offers. Some products only offer protection against UVB rays.

It is equally important to protect your eyes from sun damage. Sunglasses are a sunscreen for your eyes and provide important protection from UV rays. Be sure to wear sunglasses that are labeled with their UV-absorbing ability. Ophthalmologists recommend sunglasses that have a UV absorption of at least 90 percent.



The next time the sun beckons, put on some sunscreen and your sunglasses, go outside, and have a great time.

Bites and Stings

INSECT BITES

Signals

Stinger may be present

Pain

Swelling

Possible allergic reaction

Care

Remove stinger—scrape it away or use tweezers.

Wash wound.

Cover.

Apply a cold pack.

Watch for signals of allergic reaction.

SPIDER/SCORPION BITE/STING

Signals

Bite mark

Swelling

Pain

Nausea and vomiting

Difficulty breathing or swallowing

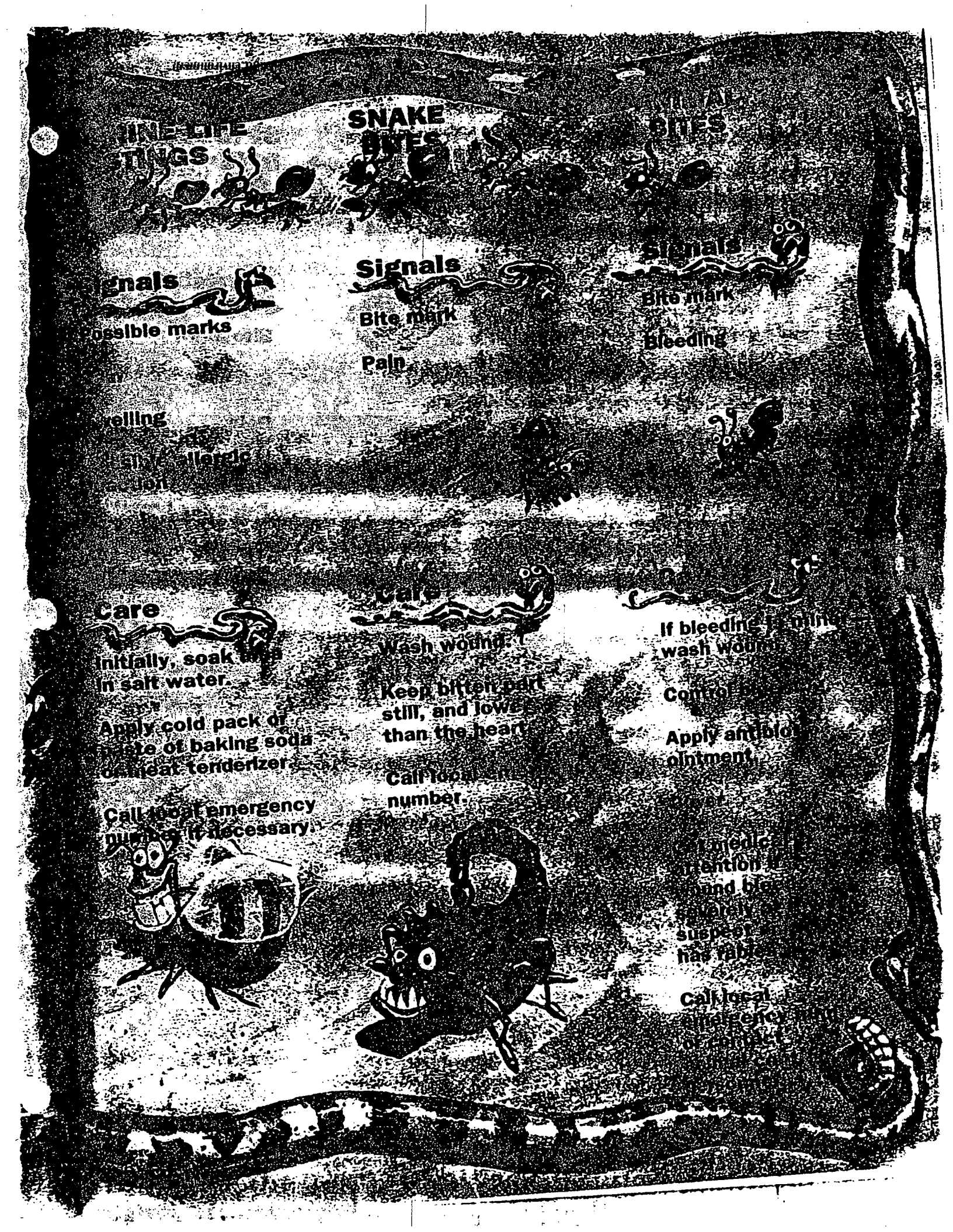
Care

Wash wound.

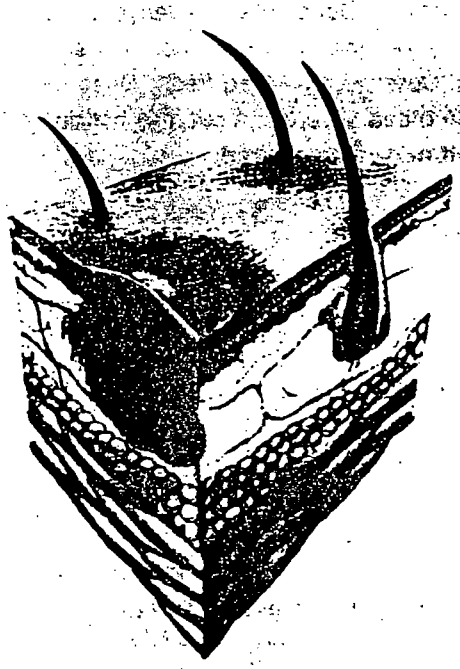
Apply a cold pack.

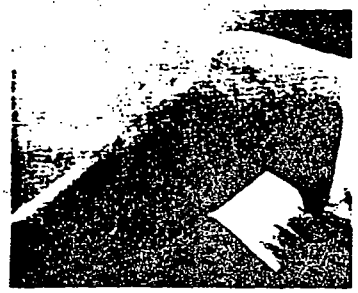
Get medical care if [illegible]

Call doctor/emergency number if necessary.


SNAKE BITES
Signals
Bite mark
Pain
Care
Wash wound.
Keep bitten part still, and lower than the heart.
Call local number.
Signals
Bite mark
Bleeding
Care
If bleeding is minor, wash wound.
Apply antibiotic ointment.

TYPES OF WOUNDS

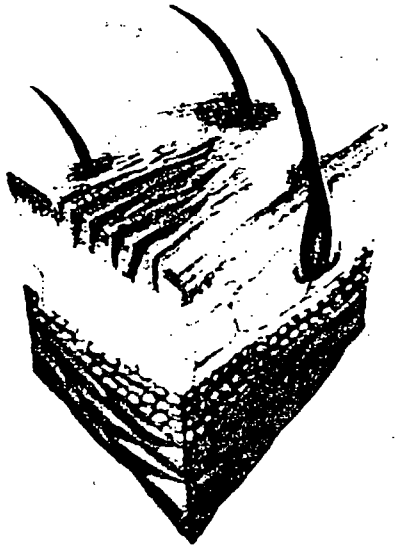


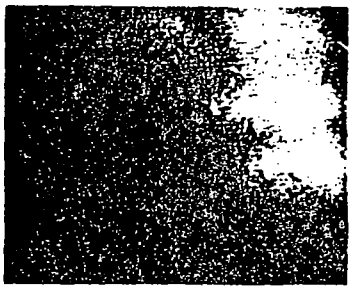


BRUISE

(Contusion; Charley Horse)

Damage to soft tissues and blood vessels causes bleeding under the skin. Tissues discolor and swell. At first, the area may only appear red. Over time, it may turn dark red or purple. A large or painful bruise may be a signal of severe damage to deep tissues.

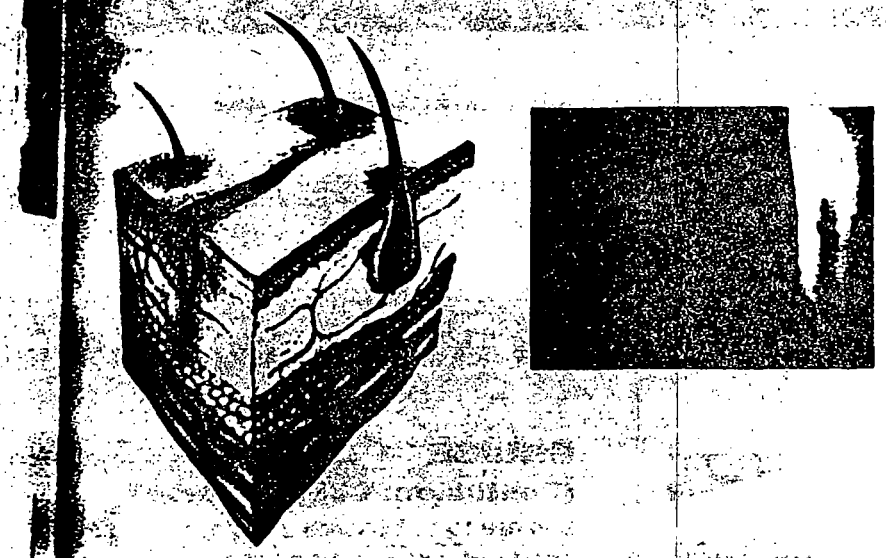




SCRAPE

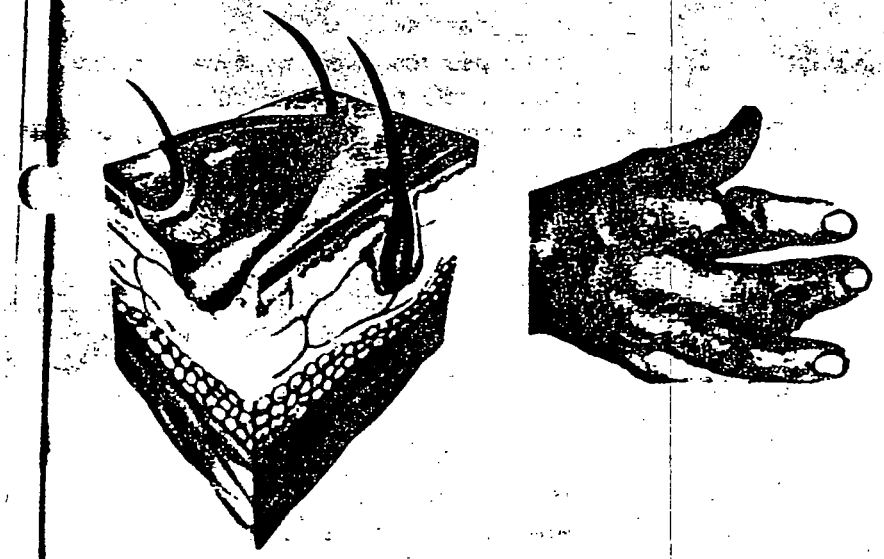
(Abrasion; Road rash; Rug burn; Strawberry)

Most common type of wound. Caused by skin that has been rubbed or scraped away. Usually painful because scraping away of outer layer of skin exposes nerve endings. Dirt and other matter can easily become ground into the wound, making it especially important to clean it. Can easily become infected if not kept clean.



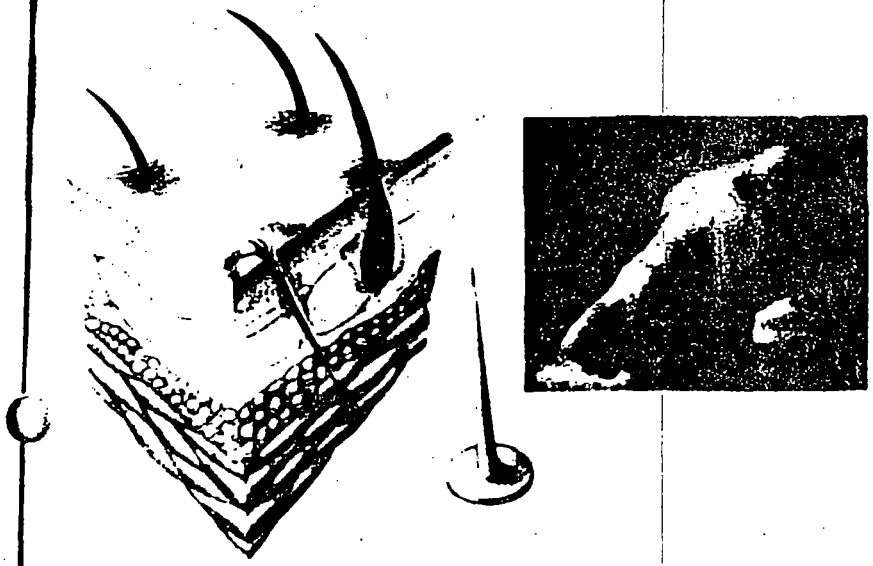
CUT
(Incision; Laceration)

A cut may have either jagged or smooth edges. Cuts are commonly caused by sharp-edged objects, such as knives, scissors, or broken glass. They can also result when a blow from a blunt object splits the skin. Deep cuts can damage nerves, large blood vessels, and other soft tissues. Cuts usually bleed freely. Deep cuts can bleed severely. A cut may not be painful if nerves are injured.



AVULSION

A cut in which a portion of skin or other soft tissue is partially or completely torn away. A partially avulsed piece of skin may remain but hangs like a flap. A violent force may completely tear away a body part, such as a finger. Because an avulsion often damages deeper tissues, bleeding is often significant. In contrast, when a body part is completely torn away, bleeding is easier to control because the tissues close around the vessels at the injury site.



PUNCTURE

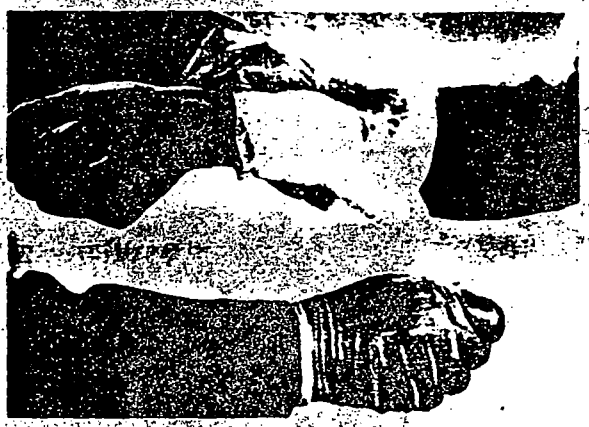
A wound caused when a pointed object, such as a nail, piece of glass, or knife, pierces the skin. A gunshot wound is also a puncture wound. Because puncture wounds do not usually bleed a lot, they can easily become infected. Bleeding can be severe if the penetrating object damages major blood vessels or internal organs.

An object that remains embedded in the wound is called an impaled object. An object that passes completely through a body part will make two wounds—one at the entry point and one at the exit point.

BANDAGE

A roller bandage used to control bleeding is called a pressure bandage. To apply a pressure bandage ...

1 **Start by securing the bandage over the dressing.**



2 **Use overlapping turns to cover the dressing completely.**

3 **Tie or tape the bandage in place.**

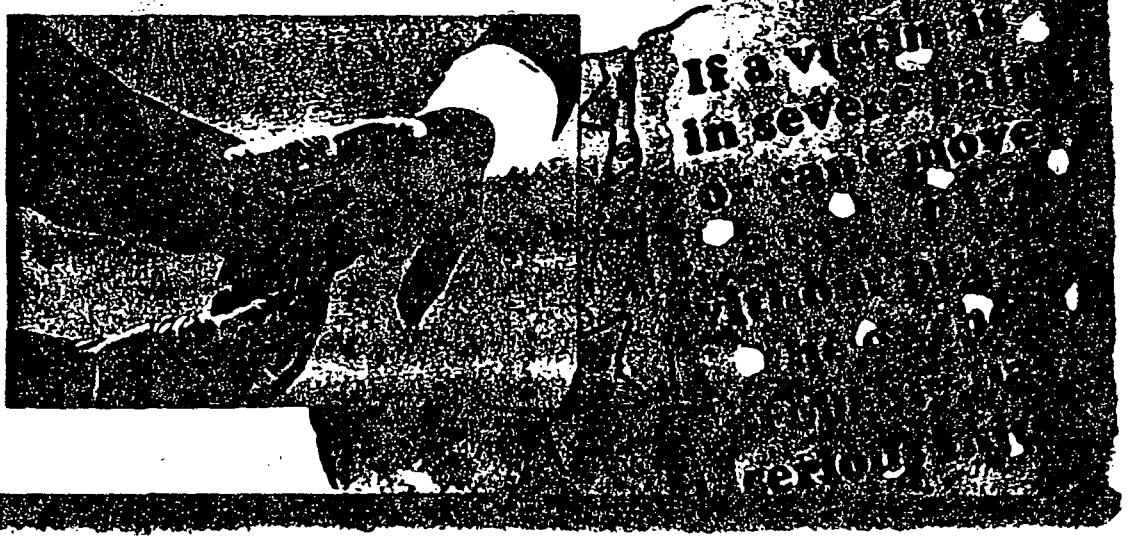
4 **Check the fingers for warmth, color, and feeling.**

level of the heart, if possible to help slow bleeding. Secure one end of the bandage in place. Then wrap the bandage around the body part, using overlapping turns, covering the dressing, and extending several inches beyond the dressing at both ends. Tie or tape the bandage in place. If possible, do not cover the fingers or toes. Check them to see if they turn pale or blue or become cold. If they do, the bandage is too tight. Loosen it.

When a roller bandage is used to help control bleeding, it is commonly called a pressure bandage. This is because it can be applied snugly, keeping pressure over the wound. If blood soaks through bandages, put on more dressings and bandages. Do *not* remove blood-soaked ones.

Roller bandages can also be elastic. These are sometimes called Ace bandages. They are used to keep pressure on a part of the body such as an arm or leg. They can control swelling and give support and are commonly used on joint injuries. Like other roller bandages, these elastic bandages are also available in assorted sizes.

Although an elastic bandage is very effective, it can create problems if it is applied so tightly that it restricts blood flow. Restricted blood flow is not only painful, it can cause tissue damage.



The first step in using an elastic bandage is to select the correct size. This is determined by the area that you plan to wrap. A narrow bandage would be used to wrap a hand or wrist. A medium width bandage would be used for an arm or ankle. A wide bandage would be used to wrap a leg.

To begin the wrap, place the end of the bandage against the skin and use overlapping turns. Gently stretch the bandage as you continue the wrapping. The wrap should cover a long body section like an arm or a calf, beginning at the point furthest from the heart. For a joint like a knee or ankle, use figure-eight turns to support the joint.

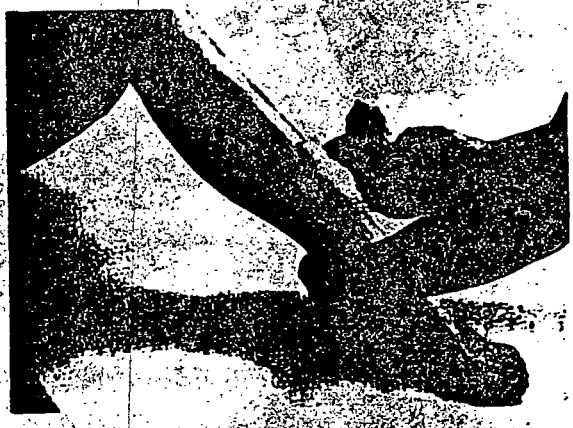
Be sure that the bandage is not too tight. Check the circulation of the limb beyond the bandage by noting changes in skin color and temperature.

CARING FOR SOFT TISSUE INJURIES

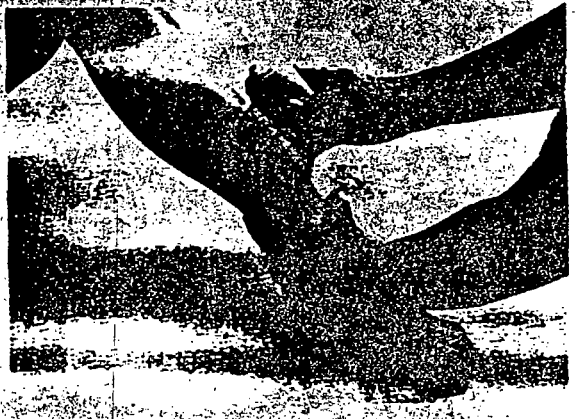
Most closed wounds, such as bruises, do not need special medical care. You can use direct pressure on the area to cut down bleeding under the skin. Raising the injured part helps reduce swelling.

ELASTIC BANDAGE

Elastic bandages control swelling and give support for injuries, such as sprains or strains. To apply an elastic bandage ...



1 Start at the point farthest from the heart.



2 Anchor the bandage.

3 Wrap the bandage using overlapping turns.

4 Tape the bandage in place.

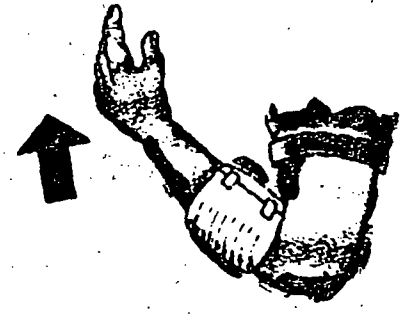
pressure. If a sterile dressing isn't available, use any clean cloth, such as a towel, handkerchief, tie, or sock. If the victim is able to help, have him or her apply pressure to the wound. Use your own bare hand to apply pressure only as a last resort. Always try to put a barrier between yourself and a victim's blood. Keep a pair of disposable gloves handy, either in a first aid kit or in your car.

Next, elevate the wound. If possible, raise the injured area above the level of the heart. Then, apply a bandage snugly over the dressings to keep pressure on the wound. If the bleeding is still not controlled, use a pressure point. A pressure point is a spot on the body where you can squeeze the nearby artery against the bone underneath. This can slow or stop the flow of blood to the wound.

Caring for a Major Open Wound

Control bleeding by placing a clean covering, such as a sterile dressing, over the wound and applying pressure.

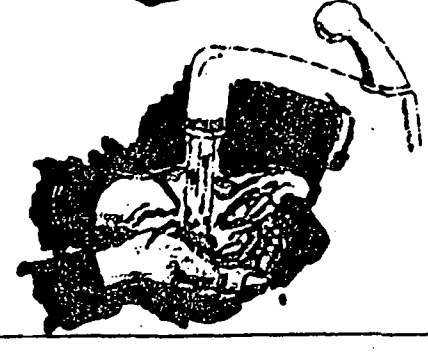
If you don't think the wound also involves a broken bone, elevate the injured area.



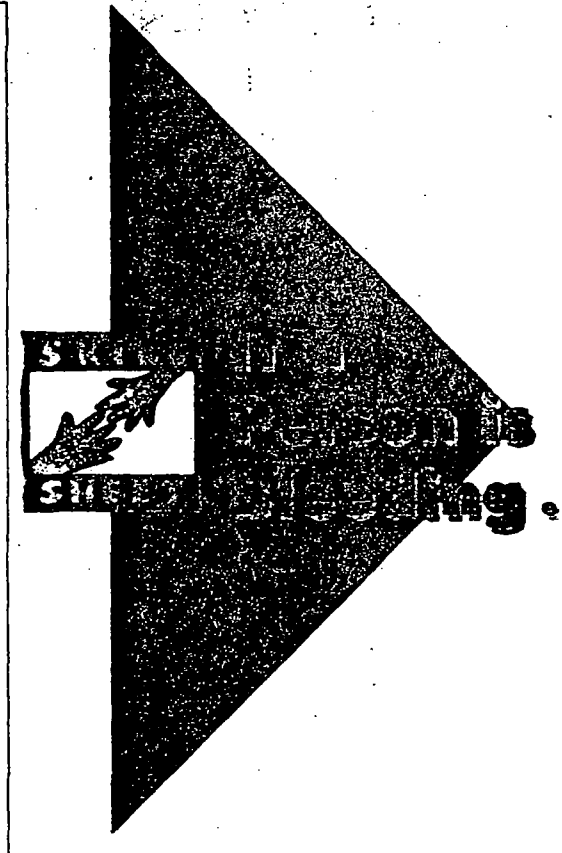
Apply a bandage snugly over the dressing.

If the bleeding cannot be controlled, put pressure on the nearby artery (pressure point).

Seek medical attention. (Call EMS personnel or transport the victim to a medical facility.)



Wash your hands immediately after completing care.



Control Bleeding

Cover wound with dressing and press firmly against the wound with hand.

Elevate arm above the level of the heart.

Cover dressings with a roller bandage.

Sprains and Strains

Spring is the season of flowers, trees, strains, and sprains. Almost as soon as armchair athletes come out of hibernation to become intramural heroes, emergency clinics see an increase in sprained ankles, twisted knees, and strained backs. So what do you do when you attempt the first slide of the softball season and wind up injured? Should you apply heat or apply cold?

The answer is both. First cold, then heat. It does not matter whether it is a strain or a sprain!

When a person twists an ankle or strains his or her back, the tissues underneath the skin are injured. Blood and fluids seep from the torn blood vessels and cause swelling to occur at the site of the injury. By keeping the injured area cool, you can help control internal bleeding and reduce pain. Cold causes the broken blood vessels to constrict, limiting the blood and fluid that seep out. Cold also reduces muscle spasms and numbs the nerve endings. Ice should be applied to the injury periodically for about 72 hours or until the swelling goes away.

Next, apply heat. Heat speeds up chemical reactions needed to repair the tissue. White blood cells move in to rid the body of infections, and other cells begin the repair process. This enhances proper healing of the injury. If you are unsure whether to use cold or heat on an injured area, always apply cold until you can consult your physician.

STRAIN SPRAIN

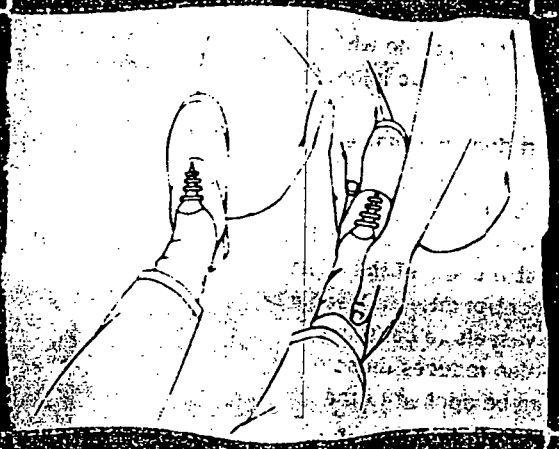
An injury causes damage to blood vessels, causing bleeding in the injured area. Injury irritates nerve endings, causing pain.

Applying ice or a cold pack constricts blood vessels, slowing bleeding that causes the injury to swell. Cold deadens nerve endings relieving pain.

Applying heat dilates blood vessels, increasing blood flow to the injured area. Nerve endings become more sensitive.

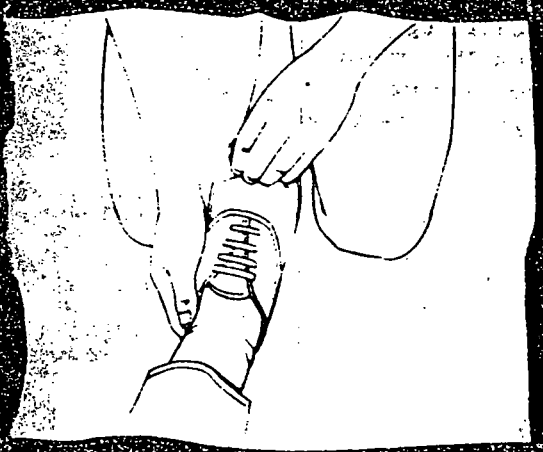
recycled paper
recycled paper

Apply a Soft Splint



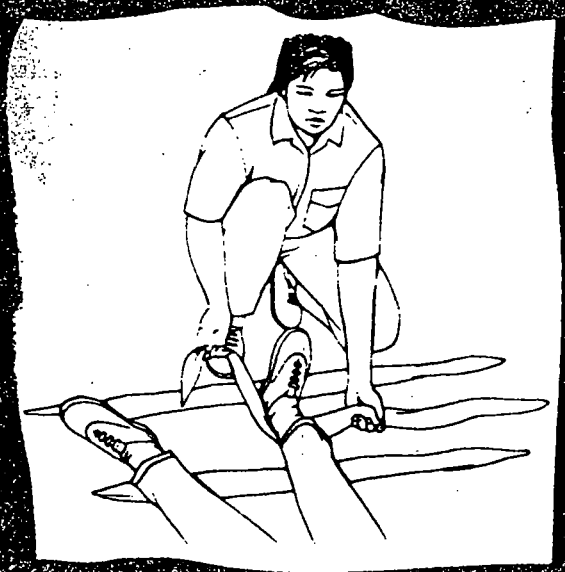
Step 1

Support the injured area above and below the site of the injury.



Step 2

Check for feeling, warmth, and color.



Step 3

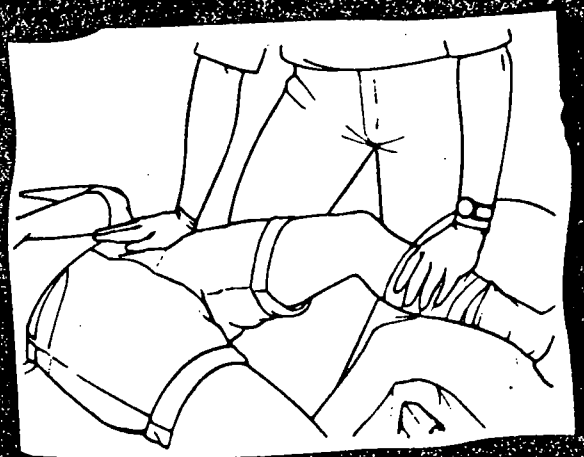
Place several folded triangular bandages above and below the injured area.

If bleeding doesn't stop. . .

1. Apply additional dressings.

2. Squeeze artery against bone.

If bleeding is from the leg, press with the heel of your hand where the leg bends at the hip.



Apply a Sling

STEP 1

Support the injured area above and below the site of the injury.

STEP 2

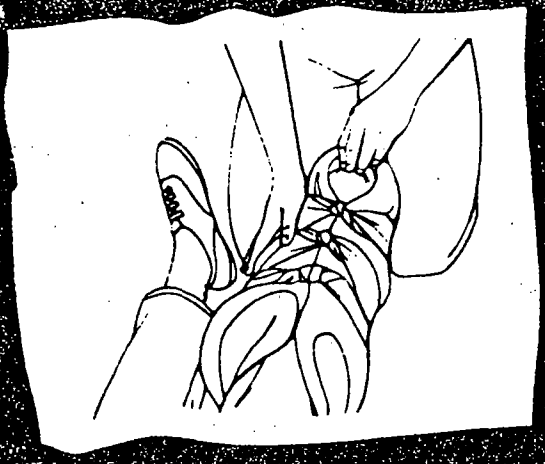
Check for feeling, warmth, and color.

STEP 3

Place triangular bandage under injured arm and over uninjured shoulder to form a sling.

4 Gently wrap a soft object (a folded blanket or a pillow) around the injured area.

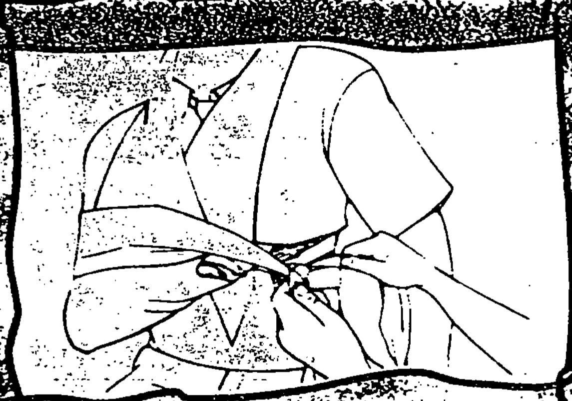
5 Tie triangular bandages securely.



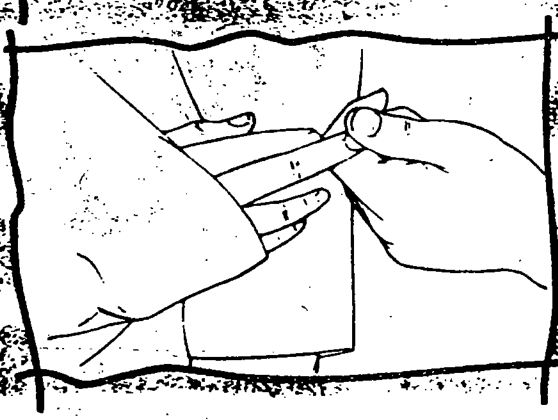
6 Recheck for feeling, warmth, and color.

If you are not able to check warmth and color because a sock or shoe is in place, check for feeling.

STEP 4 Tie ends of sling at side of neck.



STEP 5 [illegible] chest with folded triangular bandage.

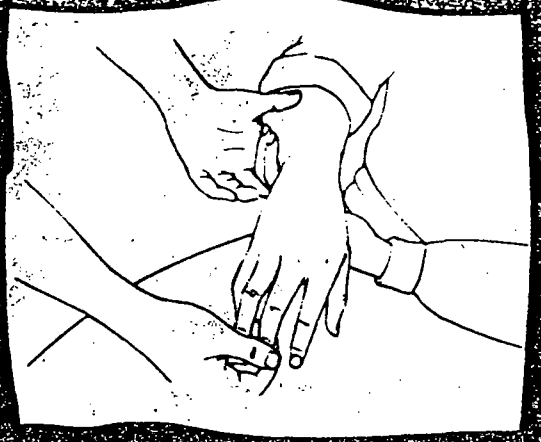


STEP 6 Recheck for feeling, warmth and color.

Apply a Rigid Splint

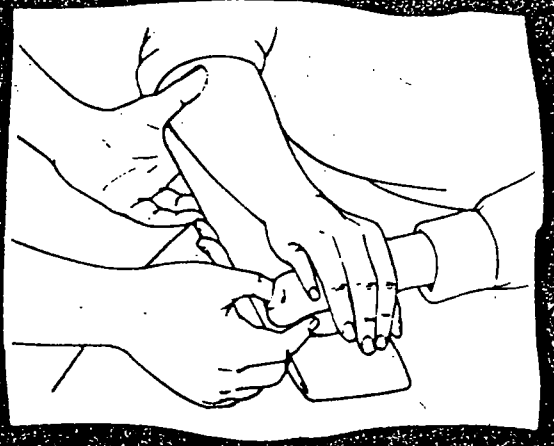
STEP 1

Support the injured area above and below the site of the injury.



STEP 2

Check for feeling, warmth, and color.



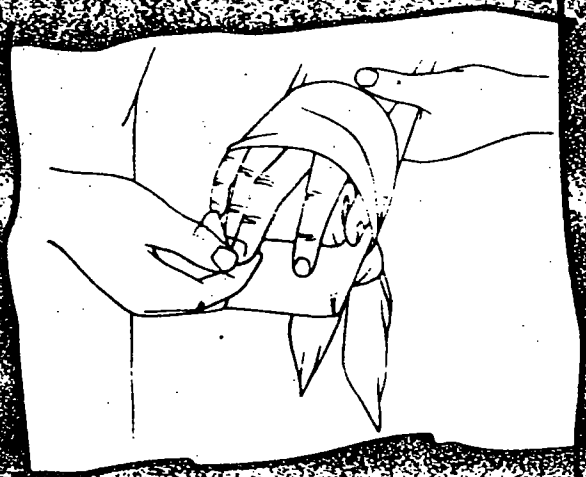
STEP 3

Place the rigid splint (board) under the injured area and the joints that are above and below the injured area.

SKILL SHEET

STEP 4

Tie several folded triangular bandages above and below the injured area.



STEP 5

Recheck for feeling, warmth, and color.

If a rigid splint is used on a forearm you must also immobilize the elbow. Bind the arm to the chest using folded triangular bandages or apply a sling.

Poison Control Centers

Poison Control Centers (PCCs) help people deal with poisons. There are PCCs all over the United States. Many centers are in the emergency departments of large hospitals. The people who staff these centers have access to information about almost all poisonous substances. They will tell you how to counteract the poison.

Keep your local PCC telephone number posted by your telephone. The number will be in your telephone directory. You can also get it from your doctor, a local hospital, or your local EMS system.

Poison Control Centers answer over a million calls about poisoning each year. Many poisonings can be cared for without the help of EMS personnel, so PCCs help reduce the workload of the EMS system. If the victim is conscious, call your local or regional PCC first. The center staff will tell you what care to give and whether to call for an ambulance.

If the victim is unconscious, or if you do not know your PCC number, call your local emergency number. The dispatcher may be able to link you with the PCC. The dispatcher may also listen in to your talk with the PCC and send an ambulance if needed.

When someone has swallowed a poison, the PCC may tell you to make the victim vomit by giving syrup of ipecac. You can buy syrup of ipecac at your local drug store. It usually comes in a 30-milliliter bottle (about 2 tablespoons). Two tablespoons, followed by two glasses of water, is the normal dose for a person over 12 years of age. For children aged 1 to 12, the normal dose is 1 tablespoon followed by two glasses of water. The victim usually vomits within 20 minutes. Young children often will not take syrup of ipecac, so it may have to be given in the hospital.

There are some instances when you should not induce vomiting. This is why you should call the Poison Control Center (PCC) for advice. Do not make the victim vomit if he or she has swallowed a corrosive substance (an acid or alkali) or a petroleum product such as kerosene or gasoline. Corrosive substances burn tissues, and if vomited, can burn the esophagus, throat, and mouth.

Since vomiting removes only about half of the poison, the PCC may advise you to counteract the remaining poison with activated charcoal. You can buy it in both liquid and powder forms from drug stores. Before use, the powder should be mixed in water to form a solution with the consistency of a milk shake. For a person over 12 years of age, follow the directions on the bottle. Young children usually will not take activated charcoal, so it is given to them in the hospital.

Syrup of ipecac is used to induce vomiting in victims who have swallowed certain kinds of poisons. Activated charcoal is used to absorb swallowed poisons.

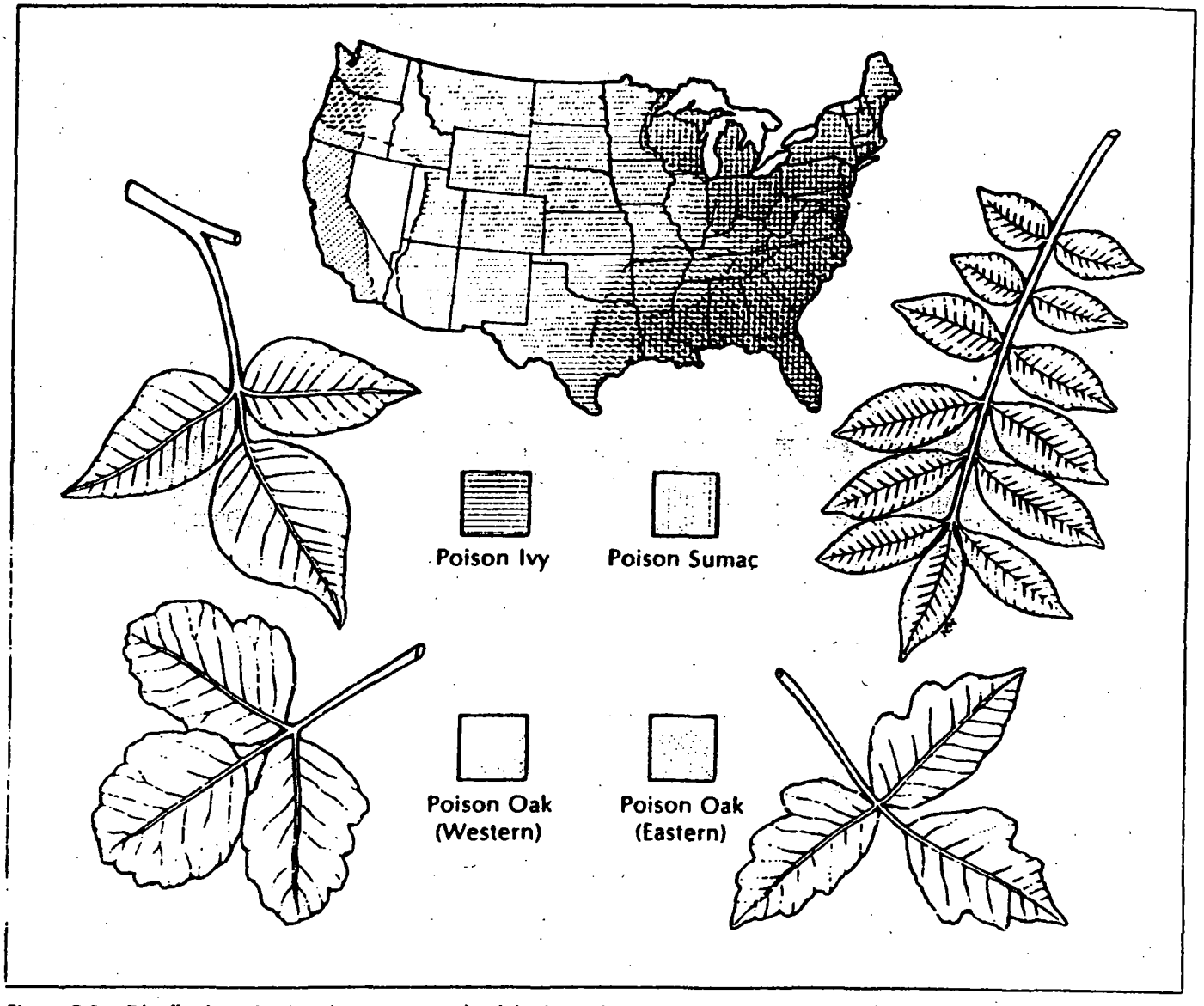


Figure 7.5. **Distribution of poison ivy, sumac, and oak in the United States.**

figure 7.5.) If exposure does occur, follow these steps:

- Remove contaminated clothing (including shoes) and wash all exposed areas thoroughly with a strong soap. Apply alcohol and then rinse with water.
- If a rash appears, apply calamine or other soothing lotion. Corticosteroid creams or lotions also will ease itching and swelling, but should be used according to instruction, should only be applied to limited areas and should not be used on young children.
- Weeping or oozing blisters should be covered with sterile gauze moistened with a mild solution of 1 tablespoon of baking soda in 1 quart of water.
- If fever or severe symptoms such as widespread rash or involvement of mouth, eyes, or genitals occur, see a doctor.

ATTACHMENT F

DAILY SAFETY MEETING RECORDS

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS ~~GED 2/7/96~~ GED 2/7/96

Project No.: ~~2T4061~~ KJ6100 | TDD/PAN No.: ~~T06-9511-010/ELA0376SBA~~ S06-9601-033/00350/SF XX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/7/96 | Time: 1235 | Weather: Sunny breezy temp ~65°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/7/96	EPA-START
TROY R. NADEN	[signature]	2/7/96	EPA-START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/8/96 ~~2/8/96~~ 2/8/96

Project No.: ~~274061~~ KJ6100 | TDD/PAN No.: ~~T06-9611-010/ELA0379SBA~~ S06-9601-033/003501SFxx

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/8/96 | Time: 0756 | Weather: Clear, cool, humid, slight breeze

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/8/96	EPA START / E&E
Troy M. Nadin	Troy M Nadin	2/3/96	EPA START / E&E

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M Nadin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: ~~2T4061~~ KJ6100 | TDD/PAN No.: ~~T06-9511-010/BLA03753DA~~ 506-9601-033/0035015

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/9/96 | Time: 0749 | Weather: Foggy, humid, cool temp ~50°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations.

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/9/96	EPA START / E+E
Troy A. NAGUIN	Troy A. Naguin	2/9/96	EPA START / E+E

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy A. Naguin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: ~~2T4061~~ KT6100 | TDD/PAN No.: T06-9511-010/~~ELA0375SBA~~ S06-9601-032/0035015FAX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/12/96 | Time: 0845 | Weather: sunny, windy, cool ~ 53°F, low humidity

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite .

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY M. NAQUIN	Troy M. Naquin	2/12/96	EPA START

Meeting Conducted By: _____ (Name) _____ (Signature)

_____ (Site Safety Coordinator) Troy M. Naquin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: ~~ZT4061~~ KJ6100 | TDD/PAN No.: ~~T06-9511-010/BLA0375SBA~~ 506-9601-035/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/13/96 | Time: 0800 | Weather: partly cloudy, cool ~ 59°F, low humidity, windy

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Troy M. Nauer	Troy M. Nauer	2/13/96	EPA START

Meeting Conducted By: _____ (Name) _____ (Signature)

_____ (Site Safety Coordinator) Troy M. Nauer (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS
Project No.: ~~[illegible]~~ KJ6100 | TDD/PAN No.: ~~T06-9511-010/BLA0326SBA~~ S06-9601-033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/14/96 | Time: 0756 | Weather: Clear, cool, temp ~50°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/14/96	EPA-START
Troy Naquin	Troy Naquin	2/14/96	EPA-START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/15/96

Project No.: ~~744061~~ KJ612

TDD/PAN No.: ~~F06-9511-010/ELA0376GBA~~ SO6-9601-033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/15/96 | Time: 0758 | Weather: Sunny clear temp ~60°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP or Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/15/96	EPA-START
Troy Naquin	Troy Naquin	2/15/96	EPA-START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy Naquin (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: ~~2T4061~~ KJ6100 | TDD/PAN No.: ~~T06-9511-010/ELA0376GBA~~ SO6-9601-033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/16/96 | Time: 0751 | Weather: ~~Clear~~, windy, cool temp ~50°F Partly Cloudy

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/16/96	EPA START
Troy M. Naquin	Troy M. Naquin	2/16/96	EPA START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naquin (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/21/96

Project No.: ~~074061~~ KJ610XP | TDD/PAN No.: ~~T06-9511-010/ELA0176SBA~~ 2/21/96 S06-9601-033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/21/96 | Time: 0840 | Weather: Cool, Foggy, Very humid temp ~55°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/21/96	EPA START
Troy M. Naguin	Troy M. Naguin	2/21/96	EPA START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naguin (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/22/96

Project No.: ~~2T4061~~ 9610 KJ6100 | TDD/PAN No.: ~~T06-9511-010/BLA0345SBA~~ S06-9601-033 / 003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/22/96 | Time: 0733 | Weather: Overcast, cool, temp ~60°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area, therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate, therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/22/96	EPA - START
Troy M. Naquin	Troy M. Naquin	2/22/96	EPA - START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naquin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS ~~[illegible] 02/23/96~~ [illegible] 02/23/96

Project No.: ~~ET4001~~ K16100 | TDD/PAN No.: ~~T06-9511-010/ELA03755BA~~ S06-9601-033/00550/SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: ~~0735~~ 02/23/96 | Time: 0735 | Weather:

[illegible] 02/23/96 [illegible] [illegible] 02/23/96

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/23/96	EPA-START
Troy M. Naglich	Troy M. Naglich	2/23/96	EPA-START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M Naglich (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/26/96 JRD 2/26/96

Project No.: ~~ZT4061~~ JRD KJ6100 | TDD/PAN No.: ~~T06-9601-010/ELA037SDBA~~ SD6-9601-033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/26/96 | Time: 0835 | Weather: Partly cloudy, warm, humid, temp ~75°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D, however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area.

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/26/96	EPA START
Troy M Naquin	Troy M. Naquin	2/26/96	EPA START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naquin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/27/96 SRS 2/27/96

Project No.: ~~2T4001~~ SRS 2/27/96 KJ6100 | TDD/PAN No.: ~~TOC-9511-010/BLA0375CDA~~ SO6-9601-033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/27/96 | Time: 0734 | Weather Overcast, cool, temp ~~60-65°F~~ 70°F

Specific Location: Residential driveways and servitudes throughout the west bank area SRS 2/27/96

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R Day	Gregory R Day	2/27/96	EPA-START
Troy M Naquin	Troy M. Naquin	2/27/96	EPA-START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naquin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS JRS 2/28/96

Project No.: ~~[illegible]~~ KJ6100 TDD/PAN No.: ~~T06-9511-010/BLA0125SDA~~ S06-9601-0033/0035015FXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/28/96 | Time: 0735 | Weather: Overcast, humid, temp ~70°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate, therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
GREGORY R DAY	Gregory R Day	2/28/96	EPA START
TROY M. NAQUIN	Troy M. Naquin	2/28/96	EPA START

Meeting Conducted By: GREGORY R DAY (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naquin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS 2/24/96 2/29/96

Project No.: ~~2F4961~~ TDD/PAN No.: ~~T06-9511-010/BLA0375GBA~~

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 2/29/96 Time: 0749 Weather: Cool, overcast, breezy, temp~52°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: 1) conduct an extent of contamination survey, 2) perform waste volume estimates, 3) conduct written and video/photo-graphic documentation

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of suuroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Gregory R. Day	Gregory R Day	2/29/96	EPA-START
Troy M. Naquin	Troy M. Naquin	2/29/96	EPA-START

Meeting Conducted By: Gregory R Day (Name) Gregory R Day (Signature)

Gregory R Day (Site Safety Coordinator) Troy M. Naquin (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 7/15/96 | Time: 1110 | Weather: cool ~ 94°F, partly cloudy, windy

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: assist the LDEQ in the collection of bulk and soil samples at the site; START will not sample, START will provide written, photographic, and videographic documentation. START will also conduct sample packaging after decon by the LDEQ.

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY M. NAQUIN	Troy M. Naquin	4/15/96	EPA-START

Meeting Conducted By: Troy M. Naquin (Name) — Troy M. Naquin (Signature)

(Site Safety Coordinator) — (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 4/16/96 | Time: 0735 | Weather: sunny, cool ~59°F, NW wind, low humidity

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: assist the LDEQ in the collection of bulk and soil samples at the site; START will not sample, START will provide written, photographic, and videographic documentation. START will also conduct sample packaging after decon by the LDEQ.

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY M. NAGUIN	Troy M. Naguin	4/14/96	EPA START

Meeting Conducted By: TROY M. NAGUIN (Name) / Troy M. Naguin (Signature)

(Site Safety Coordinator) / (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 4/17/96 | Time: 0735 | Weather: Clear skies, temp ~ 60°F, NW wind, low humidity

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: assist the LDEQ in the collection of bulk and soil samples at the site; START will not sample, START will provide written, photographic, and videographic documentation. START will also conduct sample packaging after decon by the LDEQ.

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY M. NAGUIN	Troy M. Naguin	4/17/96	EPA START

Meeting Conducted By: TROY M. NAGUIN (Name) Troy M. Naguin (Signature)

(Site Safety Coordinator) (Team Leader)

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DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 4/18/94 | Time: 0720 | Weather: partly cloudy, temp ~66°F, 90% humidity, South wind, rain expected

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: assist the LDEQ in the collection of bulk and soil samples at the site; START will not sample, START will provide written, photographic, and videographic documentation. START will also conduct sample packaging after decon by the LDEQ.

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue-D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY A. NAAUIN	Troy A. Naauin	4/18/96	EPA START

Meeting Conducted By: _____ (Name) _____ (Signature)

_____ (Site Safety Coordinator) _____ (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 4/24/96 | Time: 0810 | Weather: sunny, cool ~ 65°F, 82% humidity, SE wind

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: assist the LDEQ in the collection of bulk and soil samples at the site; START will not sample. START will provide written, photographic, and videographic documentation. START will also conduct sample ~~packaging~~ after decon by the LDEQ.
- conduct an ACM survey of the school in the westbank area

TMP 4/24/96

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY M. NAGUIN	Troy M. Naguin	9/24/96	EPA START

Meeting Conducted By: _____ (Name) _____ (Signature)

_____ (Site Safety Coordinator) _____ (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 5/2/96 | Time: 0925 | Weather: Partly cloudy, wind from SE, temp ~ 68°F

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: assist the LDEQ in the collection of bulk and soil samples at the site; START will not sample, START will provide written, photographic, and videographic documentation. START will also conduct sample packaging after decon by the LDEQ. TAM 5-2-96
the EPA representative on a site tour, will not interact with ACM

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile and crocidolite

Physical Hazards Update: cold stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D; however, if TAT is tasked to perform sampling for asbestos, TAT will upgrade to level C-APR with HEPA cartridges, tyvek with hoods, latex booties, and latex gloves

Special Equipment/Procedures: if sampling is required, TAT will used a wetting agent before collecting the bulk sample

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center - 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone:

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high-crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
TROY M. NAGUIN	Troy M. Naguin	5/2/96	EPA START

Meeting Conducted By: TROY M. NAGUIN (Name) Troy M. Naguin (Signature)

(Site Safety Coordinator) (Team Leader)

ecology and environment, inc.

DAILY SAFETY MEETING RECORD

GENERAL INFORMATION

Project: WESTBANK ASBESTOS

Project No.: KJ6100 | TDD/PAN No.: S06-9601-033/003501SFXX

Project Location: West Bank area of New Orleans-Marrero, Harvey, Westwego, & Gretna, Jefferson Parish

Date: 07/11/96 | Time: 0900 | Weather: Sunny, warm, humid, light NE wind

Specific Location: Residential driveways and servitudes throughout the west bank area

Planned Activities: conduct a site tour with the EPA and the Corp of Engineers to collect information for a proposed removal action. START will conduct written and possibly photographic documentation.

SAFETY TOPICS PRESENTED

Chemical Hazards Update: Asbestos-species include chrysotile, crocidolite, and amosite

Physical Hazards Update: heat stress, slip/trip/fall, animal and insect bites, always be aware of your surroundings

Radiation Hazards Update: none detected during previous site assessment

Review of Previous Monitoring Results: Air monitoring for asbestos was conducted at three residential locations in 1990 and results revealed no detection of fibers in the ambient air at these locations

Protective Clothing/Equipment Modifications: work will be conducted in level D

Special Equipment/Procedures: START will not disturb any ACM during the site visit

Drilling Safety Issues (including testing the operation of drill rig emergency stop switches): NA

Emergency Procedures: Exit the location where work is being conducted to the nearest vehicle

Hospital/Clinic: West Jefferson Medical Center 504-347-5511

Hospital Address: 1101 Avenue D Marrero, Louisiana | Telephone: 504-347-5511

Directions to Hospital: Sites are located throughout the west bank area; therefore, best route from any location is to proceed to the West Bank Expressway then to Avenue D, in which the hospital is located south of the West Bank Expressway

Additional Topics/Observations: The area in which the sites are located has a high crime rate; therefore, all team members should be aware of their surroundings and if any suspicious activity is detected, immediately remove yourself from the area

Team Members' Comments/Suggestions:

DAILY SAFETY MEETING RECORD

INITIAL PROJECT SAFETY CHECKLIST

1. Emergency information reviewed? X and made familiar to all team members? X
2. Route to nearest hospital driven? X and its location known to all team members? X
3. Site safety plan readily available and its location known to all team members? X
4. E & E Drilling SOP on Site? NA and available for team member review? NA

ATTENDEES

Meeting shall be attended by all personnel who will be working within the exclusion area. Daily informal update meetings will be held when site tasks and/or conditions change.

Name (Printed)	Name (Signature)	Date	Representing (Company/Agency)
Carol A Geraghty	Carol A Geraghty	7-11-96	E+E
TROY M. NAQUIN	Troy M. Naquin	7-11-96	E+E

Meeting Conducted By: TROY M. NAQUIN (Name) Troy M. Naquin (Signature)

Troy M. Naquin (Site Safety Coordinator) Troy M. Naquin (Team Leader)

ATTACHMENT C

SITE SAFETY PLAN ADDENDUMS

ecology and environment, inc.
EXISTING SITE SAFETY PLAN ADDENDUM FORM

Site Name: Westbank Asbestos TDD Number: S06-9601-033

Date of Original SSP: 12/19/95 (T06-9010-SIC and T06-9511-010) PAN Number: 0035015FXX (OLD Pan: ELA037SSB)

Date of Amendment: 3/20/96 Date of Proposed Work: 3/29/96

Added Activities and Hazard Evaluations: START will conduct density test measurements of the ACM. The test will require some coring into the material. START will use a wetting agent to suppress any fibers released. Wetting agent will consist of soap solution and water.

Added Monitoring Activities: ~~none~~ 3-20-96 START will monitor any dust/particulate with the Real-Time Aerosol monitor — dust will be suppressed with a wetting agent

Level of Protection: ___ A ___ B ✓ C ___ D

Reason for Up/Downgrading: Due to coring activities into the ACM, asbestos fibers could become airborne.

PPE: Tyvek without latex booties, glove-liner latex, outer cotton, APR with Type P100 HEPA or Type GMC-H cartridges

Decon: Dry decon; each person will perform own decon disposable PPE will primarily be work PPE will be collected in plastic bags & sealed.

Team Members	Responsibility
Roger Naquin	Project Manager/SSO
John Mueller	Team Member
Gregory R Day	Team leader
[illegible]	Civilian Force

Equipment	Quantity	Equipment	Quantity
drill	1	beakers	2
scale	2	*see equipment list for expendable equipment (e.g. tyvek, gloves, etc.)	
trowels	5		

THE TERMS OF THE ORIGINAL SSP SHALL BE IN EFFECT EXCEPT AS NOTED ON THIS FORM.

Prepared by: Roger Naquin Date: 3/20/96

Reviewed by: Natalya E Ball Date: 3/21/96

Instructions: this form to be approved through normal channels and attached to original Plan. Form SSP-A

ecology and environment, inc.
EXISTING SITE SAFETY PLAN ADDENDUM FORM

Site Name: Westbrook Asbestos — TDD Number: 506-9601-033

Date of Original SSP: 12/1/95 (TO6-9010-54C, TO6-9511-010) — PAN Number: 00350151FXX (OLD PAN ELA03755B)

Date of Amendment: ~~4/12/96~~ TMW 4-12-96 4/12/96 — Date of Proposed Work: 4/15/96

Added Activities and Hazard Evaluations: START will observe the collection of bulk, soil, and air samples by the LOED. START will not collect the samples and will remain at a distance from sampling activities.

Added Monitoring Activities: LOED will address air monitoring - START will remain upwind and away from activities.

Level of Protection: ___ A ___ B ___ C ✓ D

Reason for Up/Downgrading: START will upgrade to LEVEL C if LOED, during sampling, observes a release of fibers into the ambient air - START will be informed

PPE: Cotton clothing, steel toe boots

Decon: Dry decon is necessary - PPE will be disposed of in a double bag plastic bag and disposal will be per OSC instructions

Team Members	Responsibility
Troy M. Nguyen	Project Manager
Debra E. Bendily	LOED

Equipment	Quantity	Equipment	Quantity
Camera (BR3)	1	Video Camera (BR1)	1
Bio Gel	1	SKC Pumps	6
Phone (TAT 2)	1		

THE TERMS OF THE ORIGINAL SSP SHALL BE IN EFFECT EXCEPT AS NOTED ON THIS FORM.

Prepared by: Troy M. Nguyen — Date: 4/12/96

Reviewed by: ___ — Date: ___

Instructions: this form to be approved through normal channels and attached to original Plan. — Form SSP-A

DRAFT

DRAFT

ASBESTOS BULK SAMPLING

SAFETY CONSIDERATIONS

1. Except in extraordinary circumstances, try to conduct sampling when no occupants or unprotected workers are in the area.

2. Collect samples wearing Level C protection as outlined in the Site Safety Plan. APR with HEPA filter (MSA APR Cartridge Type H) can be worn if other chemical hazards are not present, ex., organic vapors, etc. that require use of GMC-H cartridge.

3. Carefully clean APR after use to remove any airborne contamination.

4. Avoid all contact with asbestos.

5. If bulk sampling 3 hrs or longer, collect personal air samples for analysis of asbestos content.

6. Do not smoke, drink, or eat in the work area.

7. Shower at the end of the work.

8. Follow the sampling procedure to reduce generation of airborne contamination.

   a. Use a spray bottle containing amended water (detergent and water) to spray the surface of the area to be sampled.

   b. Use a knife or other appropriate tool to cut free a sample of the material with a minimum size of 0.5 cubic inch. Penetrate the whole thickness of the insulation and collect all layers.

   c. Spray the sample area again with the water solution. With the knife in one hand and an open, labeled sample bag in the other hand, cut the sample free, allowing it to fall into the bag.

   d. Seal the bag carefully and place inside a second bag to prevent leakage.

   e. Patch the sampled area with furnace cement, duct tape, or plaster patch, as appropriate. The tape will minimize fiber release and mark the sampling location for future reference.

   f. Clean any noticeable amount of insulation from the floor below the sampled area with a wet sponge or towel or with a high-efficiency particulate air (HEPA) vacuum.

   g. Place all disposables into a 6-mil plastic bag labeled as containing asbestos; seal bag.

   h. Decontaminate the sampling tool with wet wipes before proceeding to the next sample site; add wipes to waste bag.

6/92